

Operating Proposal

MASS AVE/APPLETON STREET SAFETY + ACCESSIBILITY CORRIDOR PROJECT

TOWN OF ARLINGTON // DEPARTMENT OF PLANNING AND COMMUNITY DEVELOPMENT

DECEMBER 23, 2021



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December 23, 2021

TOWN OF ARLINGTON
Department of Planning and
Community Development
Town Hall, 730 Mass Avenue
Arlington, MA 02476

**RE: Mass Ave/Appleton Street Safety
+ Accessibility Corridor Project**



Stantec Consulting Services Inc.
Boston | 226 Causeway Street, 6th Floor

Dear Mr. Amstutz,

On behalf of Stantec, we are pleased to present this operating proposal to the Town of Arlington for the Mass Ave/Appleton Street Safety + Accessibility Corridor Project. We are thrilled for the opportunity to bring our extensive local and national expertise to assist Arlington with long-term planning and design engineering for the project area. We are excited to work with the Town once again and build upon our previous experience advancing complex transportation projects, which prioritize multimodal safety and accessibility while retaining the community character that makes Arlington so beloved.

Our design approach focuses first and foremost on the essential unit of a town: people. Rather than designing from the perspective of accommodating vehicles, we instead focus on ALL of the actual users of streets – commuters, shoppers, delivery people, service providers, emergency personnel, church goers, families, children, the elderly – and the myriad ways they engage with streets and neighborhoods for travel, socialization, recreation, learning, and much more.

Stantec brings a unique understanding of designing for people, which is carried through our well-integrated Core Team. The overall project will be managed by Aleece D’Onofrio, P.E.. Aleece will work continuously to ensure that all work is completed in a holistic fashion that can lead to fundable and buildable designs. She will be advised by Jason Schrieber, Principal-in-Charge, a deeply experienced multimodal planner who most recently led efforts for dozens of communities using using grants through MassDOT and DHCD to greatly improve downtowns.

Supporting Aleece, the Project will have both a Planning and a Design Lead, each taking larger roles as the Project evolves and working together always to balance all aspects of the Project. Ralph DeNisco will serve as Planning Lead. He has worked with Arlington on the complex implementation of bus lanes on Mass Ave and is recently bringing deeper understanding of integrated travel patterns on a freeway removal project in Buffalo, NY. Walt Woo, P.E., PTOE will be the Design Lead. Walt brings deep expertise on roadway, signal and multimodal design to all of his efforts.

The Stantec team is ready to help Arlington meet this moment. We will build upon the lessons learned and work completed to date. We will bring new insights and fresh approaches to understanding all of the mobility patterns here. We will insist on a rigorous planning and design process that maximizes funding eligibility and buildability. Most importantly, we will complete all work in close partnership with the Town and those that love it in all of its complexity.

We would be happy to provide any additional information as helpful. Please feel free to contact Aleece or Ralph.

Respectfully,
Stantec Consulting Services Inc.

A handwritten signature in blue ink, reading "Aleece D'Onofrio".

Aleece D’Onofrio, PE
Project Manager
aleece.donofrio@stantec.com | (781) 221-1126

A handwritten signature in blue ink, reading "Ralph DeNisco".

Ralph DeNisco
Planning Lead
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QUALIFICATIONS
+ EXPERIENCE

WHO WE ARE

Whether traveling on four wheels, two wheels or two feet, we help communities become active, attractive and sustainable.

Our aim is to create better choices for people. From data collection to maintenance outlays, our team provides easy to understand, timely, and complete answers to complex questions about safety, return on investment, and effects to the community.

When you begin with the end in mind, you can create meaningful change. This philosophy guides how Stantec approaches our transportation and planning work - with a consistent driver of providing people with better and smarter mobility options in a comprehensive manner. This is how we prepare communities for the future. Stantec is a top 10 global design, engineering and consulting firm. The Stantec community unites approximately 22,000 employees operating out of more than 400 locations worldwide. Nearly a quarter of those employees are dedicated to enhancing our transportation system by delivering project excellence and always keeping an eye toward the future. It is at the intersection of community, creativity, and client relationships that we can truly make an impact.

STANTEC'S URBAN MOBILITY GROUP

Stantec has built a specialty in urban mobility planning, bringing on individuals with decades of multi-modal planning and design experience from across North America. Our team works in every aspect of urban mobility from transit and paratransit to shared mobility; from complete streets to micro-mobility and active transportation; from demand management to efficient parking and curbside management programs. Our studies and plans lead to substantial resolution to long-standing transit problems and open the way for more equitable and accessible delivery of transit service in the communities we serve.

We work with big data, geospatial platforms, advanced outreach tools, and engaged stakeholders to help define safe, equitable and efficient transport policies, network optimizations, design guidance and traveler programs that respond to changing travel patterns. We are passionate about working with clients and their communities to deliver the benefits of smarter mobility systems that suit the needs of people not vehicles. We challenge conventional thinking at every stage to provide revolutionary, yet realistic options, seeking to create resilient transportation systems that function successfully for decades to come.



Stantec staff are passionate about what we do, and often participate directly in the implementation of community improvements.

STANTEC'S DESIGN TEAM

We work with clients to improve the vitality of the communities by integrating pedestrian, bicycle, vehicle and transit modes in designs that not only promote a healthy lifestyle and improve overall mobility but are also aesthetically pleasing. Whether we're designing a complete street, a pedestrian trail, a bikeway, or a bus rapid transit corridor, our aim is to create better choices. In establishing the staffing plan for this project, we identified staff that have worked together in the past and with experience on similar state and municipal roadway and intersection projects. Many of our technical skills, public engagement skills and project experience complement each other, allowing us to work seamlessly on projects like this.

DAWOOD ENGINEERING, INC. (MBE)

Dawood works with clients to improve the vitality of the communities by integrating pedestrian, bicycle, vehicle and transit modes in designs that not only promote a healthy lifestyle and improve overall mobility but are also aesthetically pleasing. Whether we're designing a complete street, a pedestrian trail, a bikeway, or a bus rapid transit corridor, their aim is to create better choices.

RELEVANT EXPERIENCE

Stantec has built a specialty in urban mobility planning as a part of its broader Urban Places initiative, bringing on individuals with decades of multi-modal planning and design experience from across North America to address the complex and often unique challenges of transportation in cities and maturing suburbs. Our team works in every aspect of urban mobility from transit and paratransit to shared mobility; from complete streets to micro-mobility and active transportation; from demand management to efficient parking and curbside management programs. Our studies and plans lead to substantial resolution to long-standing mobility problems and open the way for more equitable and accessible delivery of transit service in the communities we serve.

We are also innovative in our use of tools and resources to address challenges in new and creative ways. We work with big data, geospatial platforms, advanced outreach tools, and engaged stakeholders to help define safe, equitable and efficient transportation policies, network optimizations, design guidance and traveler programs that respond to changing travel patterns. We are passionate about working with clients and their communities to deliver the benefits of smarter mobility systems that suit the needs of people not vehicles. We challenge conventional thinking at every stage to provide revolutionary, yet realistic options, seeking to create resilient transportation systems that function successfully for decades to come.

To demonstrate the experience our team brings to the project we have selected six projects from our portfolio as listed in the table and discussed further on the pages that follow.

PROJECT	CLIENT	YEARS	ROLE
Re-Imagine Main Street	City of Hartford	2019-2020	Prime consultant
Highland Avenue/ Needham Street Corridor Improvements	Town of Needham, City of Newton, MassDOT	Design: 2011-2020 Construction: 2020-2023	Prime consultant
One Kenmore	Mark Development	2017-Present	Transportation Consultant
Massachusetts DHCD Rapid Recovery Plan Funding Assistance Program	Multiple municipalities across Massachusetts, Massachusetts Department of Community Development	2020-Present	Prime consultant
Northern Strand On-Road Extension	Executive Office of Energy and Environmental Affairs (EEOA)	2018-Present	Subconsultant
On-Call Engineering Services	City of Salem	2007-Present	Prime consultant
Spring Hill Sewer Separation	City of Somerville	2019-Present	Prime Consultant
Boston Marathon Memorial	City of Boston	2017-2019	Prime Consultant

Re-Imagine Main Street

HARTFORD, CT

HIGHLIGHTS

- ✓ **City council and public vote approvals**
- ✓ **Historic context with ambition to build up / densify project area**
- ✓ **Actively guiding design development phases for:**
 - Welcoming public placemaking
 - Mixed-use development (14 buildings)
 - Dense, urban site enhancements for new green infrastructure and utility upgrades

Main Street needs a facelift, and Stantec is bringing our decades-long streetscape experience to the complex task of reinventing Main Street in Downtown Hartford as a complete street. Extensive public outreach has been essential to this process, including multi-day charrettes to ensure all stakeholders are heard.

The project will reinvent Main Street as a complete street from State House Square to the South Green Area (approximately 4,000 linear feet), including adding pedestrian amenities, enhanced transit access, providing streetscape amenities, creating linkages to adjacent major destinations, and addressing traffic operations and safety issues. To coincide with the City's newly adopted bicycle plan the project will include physically separated bicycle lanes along Main Street.

Our team proposed a reallocation of the existing pavement width of Main Street just north of the intersection with Wethersfield Ave, incorporating a new design for the intersection of Wethersfield Ave, Main Street and Park Street.

The development of construction documents for the southernmost portion of the project (from Buckingham/Charter Oak to Wyllis Street) is included, tying into a planned mixed-use development project at the intersection of Park and Main Streets.



Highland Avenue/ Needham Street Corridor Improvements

NEEDHAM/NEWTON, MA

HIGHLIGHTS

- ✓ **Two intersections received MassWorks funding**
- ✓ **Multimodal design approach to reallocate corridor space**
- ✓ **Included environmental and historic permitting**

We are providing engineering services for the design and construction of improvements of a shared corridor along Needham's Highland Avenue and Newton's Needham and Winchester Streets. The project area includes four distinct segments of roadway totaling 9,000 linear feet, with upgrades to seven signalized intersections, and improvements to the historic stone three arch bridge over the Charles River. Adjacent land use includes residential, commercial, historic, and parkland.

A multimodal design approach was a key component to balance the needs of all users along the corridor. Project goals include:

1. Improving pedestrian accommodations through providing continuous designated sidewalks, defining/ minimizing driveway openings, designating pedestrian crossings at side streets and the main line, and mid-block crossings for connections to existing trail systems;
2. Providing bicycle accommodations via 5 foot wide raised bike lanes, raised shared use paths, providing two stage left turn bike boxes at traffic signals, high visibility green bike lane through intersections, and connecting to existing trail systems;
3. Improving traffic operations/safety by way of exclusive turn lanes, two-way left turn lanes, protected phasing at signals, and reducing conflict points; and
4. Improving transit stops by adjust locations to optimize service with a floating bus stop at one location.

The completed project will feature a new widened roadway surface, cement concrete sidewalks, separated asphalt bike lanes, curbing, guardrail, drainage system modifications, traffic signal installation/improvements including implementation of an adaptive signal system, signing, and pavement markings. Stormwater best management practices include a stormwater infiltration basin, water quality swale, infiltration trenches, and deep sump hooded catch basins.

This complete streets design approach was extensively coordinated with the municipalities and state agencies to balance the needs of all users. Numerous public informational meetings were held to gather input from the community and municipal leaders.

Environmental permitting included a NEPA CE Checklist, a MEPA ENF, a Programmatic Section 4(f) Evaluation, a Water Quality Certificate, and Notice of Intents for both Needham and Newton. Right-of-Way Plans have been developed showing permanent land takings and temporary construction easements in both Needham and Newton due to roadway widening.

Improvements at the Highland Ave/First Ave intersection in Needham and at the Needham Street/ Oak Street/ Christina Street Intersection in Newton were extracted from the overall corridor project and have been constructed by their respective municipality to help keep this project moving forward. For these municipally constructed projects, Stantec provided construction oversight and Resident Engineering services for the two intersections as well as shop drawing review, verifying measurements / quantities for progress payments, and review for compliance with plans and specs.



MassDOT Shared Streets & Spaces

HIGHLIGHTS

- ✓ **Grant/funding support**
- ✓ **Collection and analysis of transportation data**
- ✓ **Hyper-focused design for:**
 - **Pedestrian safety**
 - **Accommodating future local redevelopment**
- ✓ **Alternatives analysis and concept design**



Watertown, MA

Through MassDOT's Shared Streets & Spaces Program, Stantec assisted the City of Watertown in pursuing funding for a pilot Community Path Extension in the vicinity of Watertown Square. Working with the City's Community Development & Planning and Public Works Departments, we provided expert guidance regarding the alignment of the pilot extension for one quarter-mile, encompassing three parking lots with active vehicle and pedestrian use (including in front of an entrance to the City library), topography challenges, and street crossings.

The installation involved new pavement markings, relocated parking spaces to retain accessible parking, designated space for bicycle racks, installed MUTCD-compliant signage, and placed bollards and curb ramps along street edges to better define non-vehicular space. A critical element of the project was the removal of curb and invasive plants to create an approximately 100-foot section of elevated path, using asphalt fill lined with mulch and bollards to separate path users from active parking lot below.

The success of this project helped Watertown demonstrate that a permanent extension of the Watertown Community Path through a series of parking lots adjacent to Main Street is viable. The future project would allow path users to bypass the congested Watertown Square intersection and connect with another proposed off-street path along Arsenal Street, eventually creating a 1.75-mile contiguous trail through much of the community and connecting with the trail network along the Charles River. In providing low-stress recreational space for Watertown residents to enjoy during the height of the pandemic, Stantec demonstrated how to quickly and creatively overcome mobility challenges in a constrained urban environment for the benefit of all types of users.



Arlington, MA

For the Town of Arlington, Stantec supported the award of two grants totaling over \$57,000 for the Town to fund two parklet concepts, which expanded outdoor dining and provided new bicycle racks, as well as the implementation of traffic calming measures and new signage. For each concept, we crafted design solutions, examined equipment which could be procured and installed within a 90-day timeframe mandated by MassDOT, and applied the results of demonstration projects in East Arlington and elsewhere to demonstrate the value of shared street improvements.

The parklet concept involved the installation of public and private outdoor seating, pedestrian safety measures, and bicycle parking infrastructure in Arlington Center and Arlington Heights. By converting parking spaces, small roadways, and pedestrian alleyways into safer areas to dine outdoors, walk, and travel by bicycle, Stantec and Arlington assisted businesses by providing additional public space for their customers' use and safer means of access to commercial centers during the pandemic.

The grant award also installed shared street components in two areas of East Arlington to provide safe social distancing space for people walking, bicycling, and rolling. Gateways, traffic calming, and signage were put forward as key components to create safe and comfortable spaces for sharing streets with drivers, serving Arlington's larger goal of creating shared street networks and supporting healthy travel as the community responded to the COVID-19 pandemic.

Middleton, MA

Stantec worked with the Town of Middleton to design a long-planned bicycle path that fills an important gap in downtown connectivity by converting an existing rail and electric right-of-way to a rail trail. The project included traffic calming, including at three intersections, to help people walking and biking access the trail as well as to calm traffic overall. Together, these links connect residents to a local school as well as increasing space for people to be outside in response to the COVID-19 pandemic and in general. Both projects were designed to be "quick launch," so that the Town could quickly obtain and install available materials and have the facilities open in a short period of time. Stantec worked with the town to successfully apply for grant funding to support the project, which is now open and available to the public.

Topsfield, MA

Stantec assisted the Town of Topsfield in submitting an application for the MassDOT Shared Streets and Spaces Grant Program in August 2020. The application process included producing detailed, planning designs for each element, along with expected material and installation costs. Ultimately the Town was awarded over \$181,000 for a variety of improvements to their downtown, including an outdoor dining parklet, pedestrian crossing improvements, and one-of-a-kind solar powered streetlamps.

The Town was committed to the idea of solar-powered lighting, but the concept was outside the initial scope of the grant program. Stantec's Urban Mobility Team curated a case for the lighting, tying the impact of illuminating the street to business sustainability and safer mobility connections for pedestrians and bicyclists. The end result is a lively downtown, with lighting and outdoor dining, encouraging safer evening activity.

Amherst, MA

The Town of Amherst, was one of many municipalities that Stantec assisted for the Shared Streets & Spaces Grant Program. Amherst was interested in preserving the vitality of its downtown, particularly during colder months when local colleges are in session, with walkable, comfortable outdoor dining options that permit social distancing. Various other enhancements were desired to encourage more walking, bicycling, and transit travel to, from, and within downtown.

Stantec's design incorporated readily-acquired materials that could be rapidly installed yet ensure safety for all modes and compliance with governing design and access guidelines. Building on earlier Shared Streets & Spaces grants, Stantec conceptualized, refined, and guided the implementation of improvements which prioritized pedestrian and bicycle safety by enhancing crosswalks, adding safety barriers, and re-aligning road lanes to better accommodate bicycles.

On-Call Engineering Services

SALEM, MA

HIGHLIGHTS

- ✓ **MassWorks Grant application assistance**
- ✓ **Bicycle and pedestrian focused improvements**
- ✓ **Intersection and signal design**
- ✓ **ADA compliant roundabout design**

Stantec has completed a wide range of transportation related engineering services for the City of Salem since 2007 on more than 200 assignments, including the following:

Bridge Street Reconstruction Project

In 2017 the City of Salem contracted with Stantec to provide professional engineering services and final design documents suitable for advertising the construction of "Complete Streets" improvements along Bridge Street from Boston Street to Flint Street. Funding for the project was provided through a \$3.5M MassWorks Grant, which Stantec helped to secure. Planned improvements called for the following:

- Complete Streets enhancements including bicycle and pedestrian sidewalk improvements, roadway resurfacing and/or rehabilitation, lighting, etc. along Bridge Street from Boston Street to Flint Street
- Intersection improvements at Bridge Street/Boston Street and Bridge Street/Flint Street including signalization equipment upgrades, new sidewalk and pedestrian ramps, lighting, and pavement markings
- Provision of a new shared use path connection between Bridge Street/Flint Street and the existing Leslie's Retreat shared use path
- Installation of a Rectangular Rapid Flashing Beacon (RRFB) system at a potential mid-block crossing on Bridge Street
- Relocation of a 36" drain line, including abandonment of an existing easement, and partial relocation of overhead utility lines along Bridge Street to clear a site for a multi-unit development project

The reallocation of underutilized space within the roadway, increasing pedestrian and bicycle use, and the safe accommodation of heavy vehicle traffic led to the development of a Complete Street design. Major components of this design include new traffic and pedestrian signals, ADA compliant crosswalks and wheelchair ramps, roadway resurfacing, sidewalk reconstruction, separated bike accommodation and bike lanes, ornamental LED lighting, shared use paths and trail connections, drainage modifications, signs, pavement markings and landscape elements.

Swampscott Road at First Street Roundabout

Stantec provided transportation planning, final design, bidding, construction phase and resident inspection services for a newly completed project at Swampscott Road and First Street in Salem. This project's main objective included the installation of a roundabout as a major traffic calming measure and safety enhancement. Other improvements included a cement concrete truck apron; pavement reclamation; ADA compliant sidewalks, crosswalks and pedestrian ramps; drainage modifications; ornamental lighting; expansion of a private parking lot; new signs and pavement markings, including innovative approach speed reduction markings.



Loring Avenue/Lafayette Street/West Street Intersection Improvements

Following the construction of a new parking garage at Salem State University, Stantec provided transportation planning and final design services for this intersection, along with bidding and resident inspection/construction phase services for the entire project. The scope of the project included the installation of new ornamental style traffic and pedestrian signals, traffic calming geometric changes, installation of ADA compliant sidewalks, wheelchair ramps and crosswalks, bicycle accommodation and bike boxes, new traffic signs, pavement markings and landscape improvements.



Grove Street Improvements

This project originated from Stantec's recommendations contained in the City's North River Canal Corridor Study and was designed and constructed within the last five years. The project included the complete rehabilitation of the Grove Street corridor including the reconfiguration of two intersections and numerous other complete street enhancements. Stantec also provided construction phase and resident inspection services. Construction of this \$1.5M project has helped to promote and support new, private development within the North River Canal Corridor.



One Kenmore

BOSTON, MA

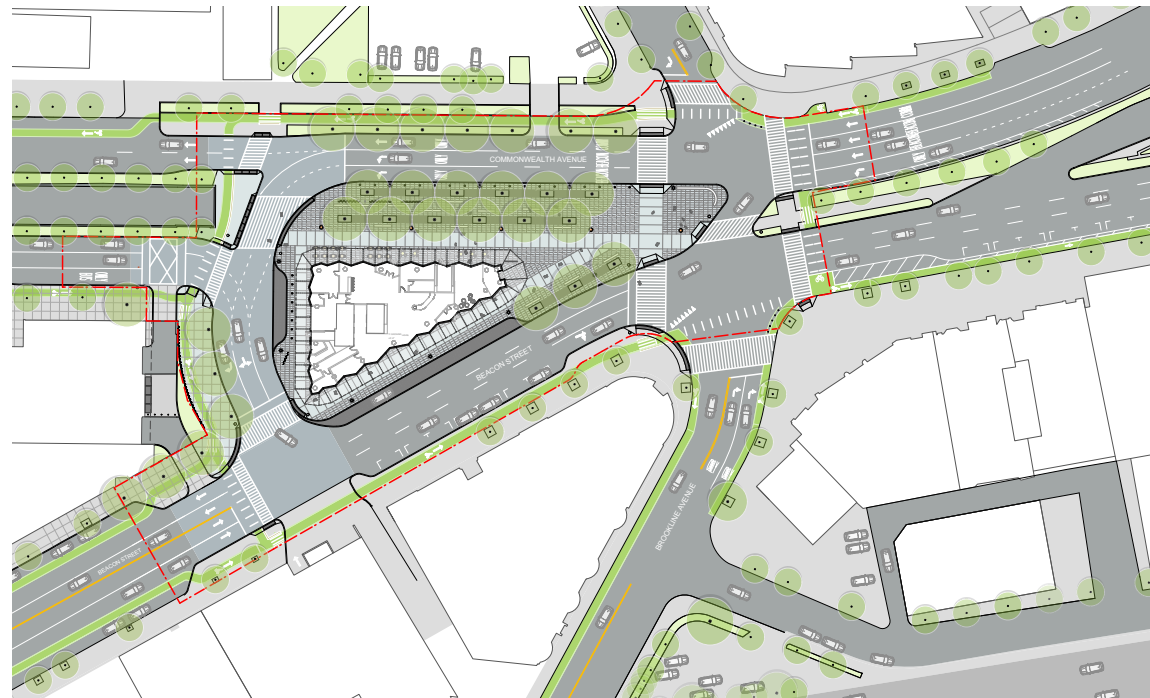
HIGHLIGHTS

- ✓ Traffic impact review
- ✓ Hyper-focused design for pedestrian safety, walkability, and cycling
- ✓ Multiple stakeholders

Kenmore Square is one of Boston's most iconic squares: it's where seven roads and two branches of the MBTA's Green Line trolley intersect; it serves as a busy pedestrian hub for access to nearby shops and restaurants; and it's right next to Fenway Park so it's directly in the path of Red Sox game-day traffic.

Unfortunately, the heart of the square is a massive intersection ill-suited to any single mode of transportation and dominated by cars. When an abutting landowner sought to turn a one-story bank into a 30-story hotel, they hired a team of urbanists to create a new vision for the historic square. The goal is to transform the congested, car-centric intersection into a welcoming environment for users of all modes of transportation. The hotel tower will rise and create a public plaza, forming a new heart of the square, while car traffic will be dispersed among three smaller intersections with notably shorter cross-sections.

The new space creates room for protected bike lanes, new crosswalks and public gathering spaces, but most importantly, it reduces delay and increases safety for all modes of travel. Driving is slower yet less congested. Bus delays decrease while new access to the transit station is created. Biking becomes dramatically safer and intuitive, and walking is now rightfully the dominate mode with vastly improved delays, desire lines and amenity. See how a wide array of best practice urban street treatments have come together to finally make Kenmore Square complete.



Massachusetts DHCD Rapid Recovery Plan Funding Assistance Program

MULTIPLE LOCATIONS, MA

HIGHLIGHTS

- ✓ **Coordination with municipal stakeholders**
- ✓ **Identification of grant and other funding opportunities**
- ✓ **Understanding of project development**

As a follow-on to our success in facilitating Rapid Recovery Plans for 12 communities in Massachusetts over the spring and summer of 2021, the Commonwealth of Massachusetts' Department of Housing & Community Development commissioned Stantec to lead funding assistance efforts for all 120 municipalities across the state which took part in the program. This quick turnaround effort, which obligated Stantec to deliver reports within five days of initial conversations with communities, demonstrated our team's success in working across disciplines and organizing a large amount of information in a streamlined way.

Ultimately, nearly 80 communities worked with Stantec to identify potential local, regional, state, and national funding sources for two projects which each community identified in its Rapid Recovery Plan as being particularly impactful in supporting recovery from the COVID-19 pandemic. We researched and defined over 200 funding options in topics as varied as town branding, downtown revitalization, small business support, parking, and arts engagement. In understanding program eligibility, funding cycles, and effort needed to pursue, Stantec was able to customize strategies for each community to pursue grant opportunities in light of the unique capacity of each city and town and characteristics of each project idea. Reports produced for each community defined a framework to carry forward with project planning; follow-up conversations provided opportunities for our team, supported by national funding experts employed by Stantec, to discuss approaches with the communities themselves.

A particular challenge with this program was the requirement for all work to be carried out in a 2.5 month period. With up to a dozen reports in progress at any one time, this effort demonstrated Stantec's ability to pull a wealth of available expertise on short notice and organize deliverables in a nimble way. Moving forward, the Commonwealth will make available all of Stantec's funding research in a searchable database for all communities across the state.



Northern Strand On-Road Extension

LYNN & NAHANT, MA

HIGHLIGHTS

- ✓ **Multiple stakeholders + multi-agency collaboration**
- ✓ **Analysis of traffic counts, capacity, signal timings, and overall accessibility**
- ✓ **Robust public engagement program prior to conceptual design**

An extension of the Northern Strand Trail, Stantec is currently working on advancing the design of the shared-use path. The project is a cooperative effort between the City of Lynn, the Massachusetts Executive Office of Energy and Environmental Affairs (EOEEA), the Department of Conservation and Recreation (DCR) and the MassDOT Highway Division. This segment of the Northern Strand Extension is proposed as a separated two-way bike lane within the existing rights-of-way and shared-use path sections for a combined 1.9 miles. The path extension begins at the existing Northern Strand trail terminus at Western Avenue in Lynn and extends approximately 1.9 miles along Market Square, South Common Street, Market Street, and the Lynnway (Carroll Parkway) to Nahant Road at the entrance to the Nahant Beach State Reservation (shown below). The Northern Strand Extension will connect areas of cultural, economic, social, and natural significance along the multi-community corridor and provide non-motorized transportation and recreational alternatives for people of all ages and abilities.

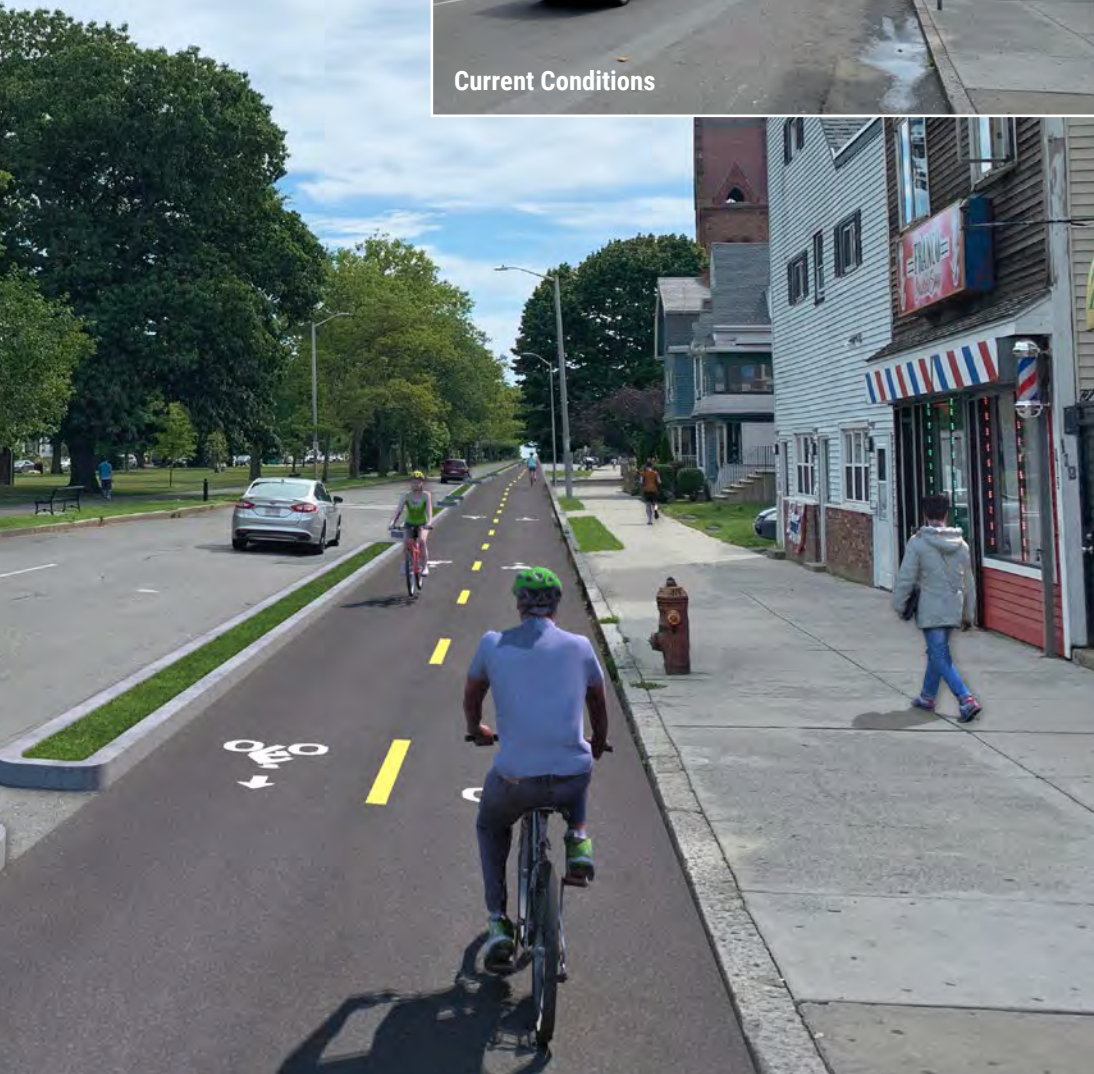
This project is a prime example of several agencies working together for a common goal as both the City of Lynn and DCR are the main property holders along the corridor. The focus is to provide users with a consistent, continuous, and safe route. Taking the existing roadway right-of-way and reallocating the space to other modes of transportation requires an analysis of the both the existing conditions and proposed conditions. This analysis includes, collecting traffic counts, analyzing capacity, reviewing existing intersection treatments, signal timings and overall accessibility. In addition to intersection improvements, ADA accessibility is being evaluated at every location along the corridor, including reciprocal ramp areas not directly within the project limits, to upgrade and improve access to the facility

Lastly, significant modifications are being evaluated at the Western Ave roundabout in Lynn and the Nahant Road rotary in Nahant to accommodate this shared-use and still provide a comfortable facility for users. Other design elements include wayfinding signage, landscaping, stormwater management and amenities.





Current Conditions



“NOW, MORE THAN EVER, TRAILS SUCH AS THE NORTHERN STRAND CAN PROVIDE AN IMPORTANT TRAVEL CORRIDOR FOR THE PUBLIC TO GET TO DESTINATIONS. THE NORTHERN STRAND COMMUNITY TRAIL WILL ENCOURAGE MORE WALKING AND BICYCLING FOR PEOPLE TRYING TO REACH RETAIL AREAS, SCHOOLS AND OTHER LOCATIONS. THIS PROJECT IS AN EXAMPLE OF HOW WE CAN ACHIEVE THE VISIONS AND GOALS SET FORTH IN THE STATE BICYCLE AND STATE PEDESTRIAN PLANS. WE HAVE TO GIVE MORE PEOPLE MORE CHOICES FOR TRAVEL AND THIS TRAIL DOES THAT.”

STEPHANIE POLLACK,
MASSDOT, FORMER TRANSPORTATION SECRETARY AND CEO

Spring Hill Sewer Separation

SOMERVILLE, MA

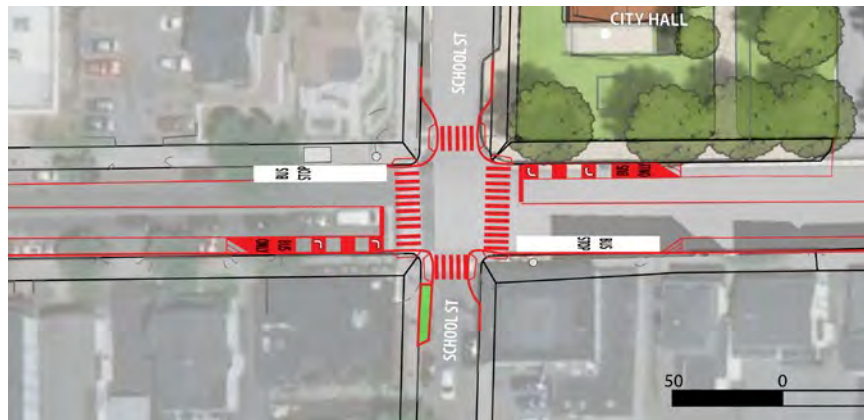
HIGHLIGHTS

- ✓ **Robust public engagement**
- ✓ **Multimodal design approach to prioritize pedestrians, cyclists, and transit**
- ✓ **Alternative analysis and concept design**

When planning to separate the sewers in the Spring Hill neighborhood, The City of Somerville took the opportunity to rethink how key roadways were being used in the neighborhood. Our planners worked with the City to conceptualize the future of Summer Street, School Street, and Central Street before moving into the design process. The team is continuing to provide support for the design of Highland Avenue. The project demanded the involvement of the Urban Mobility Group for planning expertise, transportation engineers for the final design process, and our water group for the sewer separation itself.

Through client and public engagement, the Urban Mobility Team provided direct assistance in understanding corridor priorities, identifying roadways that should prioritize transit versus pedestrians and cyclists. At a public meeting in early 2020, residents had the opportunity to physically design each corridor using a cross-section design card game. The project team took the input from then City Team and residents and developed conceptual plans for each corridor.

As the project moved into the design phase, the Urban Mobility Team worked with Stantec transportation engineers, developing a functional design that met construction regulations, while staying true to the envisioned design shared through engagement. The designs for Summer Street, School Street, and Central Street are nearing completion and are expected to be constructed in the coming years. Stantec is providing ongoing support for the design of Highland Avenue.



Boston Marathon Memorial

BOSTON, MA

Following the tragedies of the Boston Marathon bombing, the City and affected families were met with a monumental outpouring of support from around the globe. Five years later, the City of Boston opened the conversation to memorialize the events of April 15, 2013.

The City sponsored a design competition stipulating that the memorial would be two 'markers' near the marathon's iconic Boylston Street finish line; one marker at each of the two bombing sites. A local artist's concept design was selected by a committee of City officials and the families that lost loved ones in the tragedy. After award of the project, the artist retained Stantec to provide design, graphics, permitting, contract document and construction administration services.

The final design for the two marker sites started with bumping out the existing curb line to establish a sense of permanence and place for the markers. The actual markers consist of three interlocking granite columns, which have been pulled apart, two at one site and one at the other, representing the three lives lost at the bombing, metaphorically permanently linked. The granite was sourced from specific sites that are connected to the victims, Franklin Park, Spectacle Island and the BU bridge.

Each site is defined along the street edge by four sculptural spiral bronze and cast glass columns. The columns are 18' and 22' in height, consistent with the scale of the existing street lighting and other street elements. These lights are controlled by a sophisticated controller that can change the light colors and intensity, changeable by the City for any reason.

Opened to the public in August 2019, the markers represent Boston's unity, the community's resilience, and reclaims the sites of tragedy as poetic reminders of the city's heart.



PROJECT TEAM



We have built our team around your specific goals and requirements. Our priority is to deliver this project with sound project management, communication, and technical expertise that Arlington can rely on. From the start, we will work together to establish structures and protocols that support successful project execution, including regular meetings, ongoing communication between defined primary points of contact, clear milestones and deliverable due dates, and shared messaging internally and with the public.

The organizational chart demonstrates how the Stantec team will be organized and managed to ensure your project runs smoothly and efficiently.

The right team for Arlington

Each of our team members brings specific expertise to contribute to the success of your project, as illustrated in the brief bios at right. Moreover, we provide a strong leadership structure to support an efficient and cohesive project delivery model.



Mass Ave/Appleton Street Design Review Committee

Transportation Advisory Committee

Town Staff

Public



Jason Schrieber, AICP
Principal-in-Charge



Aleece D'Onofrio, PE
Project Manager



Ralph DeNisco
Planning Lead



Walt Woo, PE, PTOE
Design Lead

Mobility Planning

Multimodal
Ralph DeNisco
Jason Schrieber, AICP

Bike
Jason Schrieber, AICP
Erin Cameron

Pedestrian
Liza Cohen
Erin Cameron

Transit
Ralph DeNisco
Michael Clark

Vehicular
Walt Woo, PE, PTOE
Evan Drew, PE, PTOE

Concept Development

Aleece D'Onofrio, PE
Ralph DeNisco
Walt Woo, PE, PTOE
Jason Schrieber, AICP
Michael Clark
Evan Drew, PE, PTOE

Design Engineering

Roadway
Walt Woo, PE, PTOE
Marlin Hueil, EIT
Marie Sullivan, PE

Multimodal
Ralph DeNisco
Jason Schrieber, AICP

Signal
Walt Woo, PE, PTOE
Sarah Borenstein, EIT
Evan Drew, PE, PTOE

Landscape Architecture
Bob Corning, RLA

Public Engagement

Goal Setting
Aleece D'Onofrio, PE
Ralph DeNisco

Outreach
Jason Schrieber, AICP
Aleece D'Onofrio, PE
Ralph DeNisco
Liza Cohen
Erin Cameron

Other

Survey
Dawood Engineering, Inc.
(MBE)

Funding
Heidi Peper
Jason Schrieber, AICP
Michael Clark

Cost Estimating
Walt Woo, PE, PTOE



Aleece D'Onofrio

PE

Project Manager

Aleece provides technical design and management for roadway, shared use path/trail, and complete streets projects. She has contributed to a variety of project tasks including preparing design plans, contract drawings, cost estimates, environmental impact screenings, hosting public outreach meetings, design discipline coordination and client management coordination.

CREDENTIALS

- Professional Engineer #49594, Commonwealth of Massachusetts
- MBA, University of Massachusetts
- B.S., Civil & Environmental Engineering, University of Massachusetts



Northern Strand On-Road Extension, Lynn & Nahant, MA

Project Manager for the design of a 1.9-mile extension of the Northern Strand. This segment begins at the terminus of the Northern Strand off-road trail at Western Ave. The project as proposed is a 10-ft wide, two-way, separated bike lane (SBL) along Western Ave, Market Square, S Common Street, Market Street, the Lynnway and Nahant Road, ending at the Lynn/Nahant shore. The SBL separation is a 3-ft raised buffer and includes, traffic signal upgrades and improvements at intersections, extensive sign and pavement marking upgrades, landscaping, and accessibility improvements at all crossings.

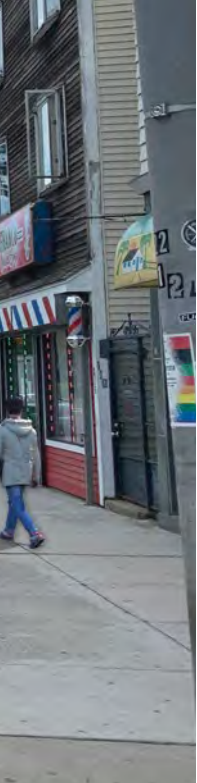
Shared Streets and Spaces Grant Program, Various Communities, MA

Stantec has assisted several communities to prepare grant applications for municipalities to receive money from the MassDOT Shared Streets and Spaces Grant Program (SSSG). The goal of these projects are to be quick-launch and expand upon improvements to sidewalks, curbs, accessibility, streets, on-street and off-street parking, safe mobility, local paths/trails, and sitting/dining areas to boost commerce and small business in their communities. Responsible for coordination with municipalities and development of conceptual design that can be quickly implemented following a grant award. Specific projects Aleece worked on are in Middleton and Watertown. Middleton's project included the first couple phases of their long-planned bicycle path filling a gap in their downtown connectivity.

Other project features were implementing traffic calming measures near the elementary school, improving three intersections for accessibility and increased visibility at the crossings. Watertown's project was also aimed at improving their local connections by connecting a gap in the Watertown Community Path. This quarter mile gap included developing an alignment through three active parking lots, four roadway crossings, and proposing accessibility upgrades.

Grand Junction Multi-Use Path and Conceptual Rail Design, Cambridge, MA

The Grand Junction Multi-Use Path has been a long-term goal of the City of Cambridge to provide an important off-road link between several neighborhoods, commercial areas, transit hubs and other future regional connections. Stantec has joined the design team tasked to guide the City and lead the team through the technical design of the path.



Project Engineer responsible for leading the design of this 2-mile corridor, participating in agency coordination with MassDOT, MBTA, MIT and other key stakeholders. The goal is to propose a 12-ft wide multi-use path with 2-ft shoulders along either side and ultimately work with the team to identify areas along the corridor that are constrained and designing the best fit.

Advanced Complete Streets 201 Training, Various Communities, MA

Trainer responsible for representing MassDOT and delivering training sessions across the Commonwealth of Massachusetts. The training is designed to provide an in-depth technical review of various Complete Streets infrastructure design elements. The session educates attendees how to select and design improvements based on multi-modal considerations and applicable design guidance.

Application of these elements is also demonstrated during a Complete Streets design exercise that includes a site visit to a local street or intersection that need a Complete Streets makeover.

Highland Avenue/Needham Street Corridor Improvements, Needham/Newton, MA

Design Engineer for Preliminary Design of 9,000 feet of roadway widening, modifications to bridge over the Charles River to allow an additional lane of traffic, and proposed pedestrian bridges on each side of the existing bridge to accommodate pedestrians. The upgrade will accommodate present and projected development along the corridor while minimizing takings and adverse environmental impacts. Shoulders to accommodate bicycle traffic are proposed through the majority of the project area. Responsible for project team coordination and preparation of plans, specifications and estimate.

Nonantum Road Improvements, Newton, Watertown and Boston, MA

Design Engineer for design of 1.57-mile roadway reconstruction and shared use path. Coordination occurred with DCR, MassDOT and the local municipalities throughout the design process. The project includes narrowing roadway width, allowing for a landscape buffer separating the roadway and shared-use path along the bank of the Charles River. Other aspects include upgrading each intersection to increase pedestrian and cyclist safety; establishing formalized roadway crossings; and enhancing landscape improvements along the corridor. Responsible for preparation of design plans, estimates and public presentations.



Jason Schrieber

AICP

Principal-in-Charge

Jason is a multi-modal planner and designer focused on the intersection of the public realm and safe, efficient and healthy communities. For 25 years, he has helped hundreds of cities, institutions, and developers elevate the importance of active transportation and bring non-motorized policy and infrastructure solutions to complex projects—typically in urban conditions. He’s shown governments from Boston to Abu Dhabi, how to manage parking in difficult shared environments; helped clients develop demand-management programs that get people to choose transit, walking, and biking over cars; and has led multi-modal planning efforts that range from the block to corridor to citywide levels that use transportation investments and mobility strategies wisely to incentivize travelers to their destinations efficiently and safely, improving public health, and strengthening communities’ sense of place. Successes include built road diets, completed transit-oriented developments, progressive parking management solutions, new campus parking and transportation programs, road and intersection diets, operational traffic solutions for complex problems, and more. Jason is currently leading the walkable redesign of Kenmore Square in Boston, the mobility pillar for the Sidewalk Toronto Labs waterfront redevelopment, and the implementation of new transit solutions for Boston’s Seaport.

CREDENTIALS

- Certified Planner #020238, AICP
- B.S., Urban Planning, University of Massachusetts



SELECT EXPERIENCE

Riverside Station Redevelopment, Newton, MA

Working with Speck & Associates, Jason developed the access and parking strategy for a large mixed-use redevelopment of the park & ride lot at the Green Line terminus. This reconceived a previous failed development attempt by changing highway access to reduce both ramp delays as well as local street impacts, unlocking development potential after years of stalemate. Stantec developed the conceptual circulation design for cars, bikes, pedestrians, bus transit and rideshare, including a new station plaza, shared-use garage, on-site streets and abutting public roadways. The project was recently approved by the City and is going into final design and construction.

Spring Hill Sewer Separation, Complete Street Designs, Somerville, MA

As part of a major stormwater project, Stantec developed the conceptual designs for the surface restoration of five street corridors, including Highland Avenue. Each incorporates multi-modal evaluation, traffic calming designs, protected bikeways, bus priority, and green infrastructure developed in coordination with multiple City departments and through community workshops with visioning and hands-on designing exercises. Jason led community process, mobility coordination and design oversight during development of construction documents. Construction begins in 2022.



Burlington Great Streets, Burlington, VT

As part of a "Great Streets" project, Stantec was selected to redesign downtown Burlington's Cherry Street and Bank Street area to prioritize pedestrian safety and movement while maintaining the on-street parking and loading needs for businesses. New sustainable multimodal connections to downtown were established with bicycle parking and direct access to the regional transit center on Cherry Street. Jason served as lead complete streets designer.

One Kenmore, Boston, MA

One Kenmore is a hotel development that rethinks transportation through historic Kenmore Square. Stantec is leading the design development and traffic analysis for a major re-routing of streets to create a public plaza and the development site. Includes new crosswalks, cycle tracks, bike signals, and narrowed travel lanes. Jason has been the designer and project manager since 2017.

South Boston Seaport Strategic Transit Plan, Boston, MA

The South Boston Seaport has been the subject of many transportation studies and many recommendations have come out of these, but without a clear direction. The Boston Planning and Development Agency hired Stantec to prioritize transit recommendations from previous plans to ensure the transit system meets district-wide demands for service, equity, and innovation.



Downtown Hammond Master Plan, Hammond, IN

The City of Hammond, Indiana commissioned this master plan with the anticipated extension of the South Shore commuter rail service and a new gateway station planned for its historic downtown within the next 10 years. The project team took this opportunity to address Hammond's long period of economic decline through a dramatic, multi-layered transformation network transformation that synced an intensive, new development approach with multimodal mobility strategy development. As mobility lead, Jason developed network designs and a shared parking strategy.

MDI Technical Assistance—Billerica Town Center Mobility and Traffic Analysis, Billerica, MA

Through a Massachusetts Downtown Initiative (MDI) grant, Billerica looked to our team to provide mobility and traffic analysis help plan for the implementation of traffic calming street design improvements in the town center. The MDI program is sponsored by the Department of Housing and Community Development.

Water Street Tampa, Tampa, FL

Mobility advisor for the revitalization of 50+ blocks into a new walkable, urban district. The plan turns streets designed primarily for cars into a pedestrian-focused framework of landscaped streets, parks, and plazas designed to support a broad range of activities. Following the master plan, we detailed design and permitting for roadway realignment/reconstruction, including major infrastructure and utilities upgrades. Jason is mobility advisor, working to coordinate the development into broader downtown initiatives.



Ralph DeNisco

Planning Lead

Ralph uses his deep technical knowledge to show stakeholders how smart transportation decisions can create the vibrant, functional places people want. In 20 years, he's built a strong record of devising sophisticated solutions to complex mobility needs that win community and agency support. Most recently, he's played leadership roles in creating a mobility framework for redevelopment of the 135-acre Ford site in St. Paul; completing a parking and mobility plan for downtown Savannah; and creating the Connect Columbus Citywide Plan in Ohio. He's currently at work on implementing several Bus Rapid Transit Pilots in Greater Boston and a High Capacity Transit plan for the Las Vegas region. He's well known in Boston for development plans (Union Square, 105 West First Street), transit plans (the state's Focus40 program), and as an advisor to several foundations on issues of urban mobility.

CREDENTIALS

- Master of Arts, Urban Affairs, Boston University Metropolitan College
- Bachelor of Arts, Economics, Boston College



Hartford Main Street Complete Streets, Hartford, CT

Mobility advisor for a project that will reinvent Main Street as a complete street from State House Square to the South Green Area (approximately 4,000 lf), including adding pedestrian amenities, enhanced transit access, providing streetscape amenities, creating linkages to adjacent major destinations, incorporating a new two-way cycle track, and addressing traffic operations and safety issues.

One Kenmore, Boston, MA

The Stantec team has worked closely with the Boston Transportation Department and the MBTA to develop a new configuration for the square that both preserves necessary vehicle access while improving access for people walking and biking.

Ralph has served as a project advisor, leading the design development and traffic analysis for a major re-routing of streets through Kenmore Square to create a public plaza and development site. This includes new crosswalks, cycle tracks, bike signals, and narrowed travel lanes.

Technical Assistance for COVID, Various Municipalities, MA

Stantec proactively worked with State officials and the Barr Foundation to develop an emergency grant program to fund shared street improvements across Massachusetts that enable social distancing as downtowns re-open. Stantec was selected as a technical assistance provider to grant applicants and developed outdoor walking, biking, transit, event and dining solutions for dozens of communities during the pandemic.



Spring Hill Sewer Separation, Highland Avenue Bus Priority Study, Somerville, MA

The necessary replacement of a major sewer line allowed for the ideal opportunity to analyze Highland Avenue as an essential transit corridor to/from downtown Boston and develop recommendations for its improved function as part of the road's reconstruction. Ralph served as the transit team lead, where he advised and guided the detailed assessment of all existing MBTA bus stops along the corridor and their amenities, ridership, compliance with MBTA guidelines, street position and distancing. The transit team also conducted various analyses at a corridor-level using travel time and dwell data to target problems areas along Highland Avenue. Ralph led the coordination efforts between the City and MBTA staff, as well as the development of stop-level transit recommendations.



Boston Area BRT Pilots, Arlington, Cambridge, Everett, and Watertown, MA

As Project Manager to the Barr Foundation, Ralph led all aspects of the BostonBRT Initiative. With aim to promote the local installation of Gold Standard bus rapid transit (BRT), this effort engaged an advisory group, state agencies, local municipalities and advocacy groups to build momentum towards implementable projects. In 2018, the award-winning initiative funded and implemented pilot BRT projects in three (3) communities.

GBNRTC Region Central – Scjacuada, Buffalo, NY

Ralph serves as the project lead for the mobility portion of the GBNRTC Region Central Scjacuada Expressway Redesign project. The Scjacuada Expressway is currently a vital corridor that connects neighborhoods to regional destinations, including educational and medical institutions,

Downtown Buffalo, and recreational facilities. Currently, the design of the Expressway does not adequately distribute trips across the region, and accommodates only freight and vehicle traffic. The project approach incorporates a wholistic perspective of the Expressway, as it incorporates economic development components, neighborhood access and equity, preservation of parks and open space, and mobility accessibility. Ralph is charged with understanding and analyzing the existing mobility challenges and issues on the Expressway, and most importantly how the future design can accommodate those who walk, bike, and take transit.



Walt Woo

PE, PTOE

Design Lead

Walt Woo has extensive practical experience as a transportation engineer, having participated in the analysis and design of dozens of signalized intersections on municipal and state roadways. He also possesses strong skills and experience in other aspects of transportation engineering, including traffic signing, pavement markings, traffic management and highway design. He also has extensive experience in traffic capacity analysis and traffic simulation modeling and has prepared numerous transportation planning studies that evaluated future traffic operations based upon anticipated future land use and travel patterns, among many factors.

CREDENTIALS

- Professional Engineer #46083, Massachusetts
- Certified Professional Traffic Operations Engineer, Transportation Professional Certification Board Inc.
- IMSA Traffic Signal Field Technician Level II (Renewal)
- M.Eng., Engineering, McGill University
- B.Eng., Civil Engineering, McGill University



SELECT EXPERIENCE

Highland Avenue/Needham Street Corridor Improvements, Needham/Newton, MA

Senior Transportation Engineer advising on traffic and mobility on this Complete Streets project to implement separated, raised bicycle lanes through the dense Highland Avenue/Needham Street retail/commercial corridor, spanning the Town of Needham and the City of Newton. Thoughtful consideration was given to allocation of space within the corridor width, as there were segments with constrained width. The project improves upon the facilities provided for non-motorized modes (bicycles/pedestrians) while maintaining traffic flow through the use of Adaptive Signal Control Technology (ASCT) at signalized intersections to improve throughput.

Northern Strand Extension, Lynn, MA

Senior Transportation Engineer for the design of on-road two-way separated bicycle lanes through Downtown Lynn and on the Lynnway.

Work on this Complete Streets project includes a road diet to accommodate the introduction of bicycle lanes through this dense section of the City. Responsible for the planning, operations analysis and design at signalized intersections to accommodate future growth while also accommodating the implementation of the road diet and the use of bicycle traffic signals.

Paradise Road Improvements, Swampscott, MA

Project Manager for improvements to Paradise Road in Swampscott. The project consisted of the addition of bicycle lanes to Paradise Road and other safety related improvements to address existing safety issues which were identified as part of a Road Safety Audit. The project also included the reconstruction of a traffic signal and adjustments to improve overall traffic operations and safety.



Hartwell Avenue Corridor Economic Development Initiative, Lexington, MA

Project Manager for a planning study conducted for the Town of Lexington that evaluated the impacts of enhanced economic development along the 1.5 mile Hartwell Avenue and Bedford Street commercial corridors in Lexington. The Town sought to evaluate the impacts of increased density along the corridor and to determine the corresponding impact to transportation infrastructure in the corridor, including a determination of transportation investments required to support the potential increased economic development of over 5 million square feet.

Safety Improvements at Two Intersections, Lowell, MA

Project Manager for the design of safety improvements to the intersection of Varnum Avenue/Riverside Street at Mammoth Rd/School Street and to the intersection of VFW Highway at Aiken Street. The project includes the replacement of the traffic signal system at both intersections, full-depth roadway reconstruction and improvements to pedestrian curb ramps.

Intersection Improvements at Route 1, Route 1A and Route 123, Attleboro, MA

Project Manager for the reconstruction of the roadway to include bicycle lanes and the reconstruction of three traffic signals. Traffic operations are expected to be improved through the installation of an Adaptive Signal Control Technology system at the closely spaced signalized intersections. The project design is also expected to improve identified safety issues in the corridor.

Lincoln Street Improvements, Worcester, MA

Senior Traffic Engineer contributing to the design of highway and traffic improvements to Lincoln Street in Worcester. Oversight of overall traffic engineering design components, including pavement markings, signs, traffic signals and maintenance of traffic during construction. Developed the design of the geometric layout of the proposed roundabout on Lincoln Street. The Project included the design of a closed-loop traffic signal system along the corridor with coordinated traffic signal timing.

Memorial Drive - Phase III, Cambridge, MA

Traffic Design Manager for the 0.8 mile section of roadway along the Charles River extending from the Eliot Bridge to the Anderson Memorial Bridge. Project includes a reduction in roadway width to accommodate the expansion of existing bicycle and pedestrian infrastructure and parkland along the Charles River, including traffic signal improvements.

Anderson Bridge Rehabilitation, Boston/Cambridge, MA

Traffic Design Manager responsible for traffic engineering design of improvements associated with the rehabilitation of the historic Anderson Bridge, connecting Boston to Harvard Square. A road diet was implemented to accommodate bicycle and pedestrian facilities over this historic bridge. The two signalized intersections at either end of the bridge, including the Memorial Drive at JFK Street intersection were constructed and traffic signal timing and phasing improvements were implemented to improve vehicular, pedestrian and bicycle flows in this corridor, which is characterized by a high proportion of multi-modal traffic, including pedestrian flows from the Harvard University campus and bicycles from the Paul Dudley White path.



Erin Cameron

Mobility Planning + Public Engagement

Erin is a mobility planner with experience in parking demand, transit planning, and Complete Streets projects. Her work in data analysis drives how our client communities can make decisions that help improve mobility of both urban and suburban communities nationwide. Her interdisciplinary experience supports tasks requiring quantitative data analysis, mapping, practical and academic research, and developing reports and graphics.

CREDENTIALS

- BA in Political Science with Leadership Distinction in Civic Engagement, University of South Carolina
- MS in Urban and Regional Policy, Northeastern University

SELECT EXPERIENCE

Spring Hill Sewer Separation, Somerville, MA

When planning to replace the subsurface utilities in Spring Hill, the City of Somerville saw the opportunity to design complete streets on some corridors in the neighborhood. Stantec's Urban Mobility Group provided design options to prioritize cyclists, transit, and pedestrians. Erin drew initial cross sections for the City to consider and refined the designs through conversations with stakeholders. At the February 2020 public meeting, she facilitated public discussion around the design of the corridors through a Street-mix type tool-kit exercise.



MassDOT Shared Streets and Spaces, Topsfield, MA

Stantec proactively worked with State officials and the Barr Foundation to develop an emergency grant program to fund shared street improvements across Massachusetts that enable social distancing as downtowns re-open. Stantec was selected as a technical assistance provider to grant applicants and developed outdoor walking, biking, transit, event and dining solutions for dozens of communities during the pandemic. Erin prepared the grant applications for the Town of Topsfield, ultimately securing over \$181,000 in funding for various street improvements including solar powered lighting and outdoor dining spaces.

One Kenmore, Boston, MA

One Kenmore Square is a hotel development in Boston, MA that allows us to rethink transportation through the historic Kenmore Square. From the project's inception, the Stantec team provides technical assistance for the development's transportation analysis and operations, and now design process. Erin serves as project planner through the permitting and design processes. Working with transportation engineers, she presents level of service data for client and stakeholder meetings, prepares materials for public review including technical permitting documents, and attends stakeholder meetings with the City of Boston, MBTA, and other agencies.

South Boston Seaport Strategic Transit Plan, Boston, MA

The South Boston Seaport has been the subject of many transportation studies and recommendations, but without a clear direction. We helped the city prioritize transit recommendations from previous plans to ensure the transit system in the district meets the demand for service, equity, and innovation the district needs. Erin acts as lead project analyst, attending all client meetings, and coordinating the study's many pieces, including a detailed evaluation process and robust public and agency group engagement.

Boston Area BRT Pilots, Arlington, Cambridge, Everett, and Watertown, MA

Erin developed maps and infographics illustrating the impact of the Boston BRT program, using AVL and APC data and vehicle volumes along key bus corridors. Her contributions assisted in presenting the effectiveness of the BRT pilots in Arlington, Cambridge, and Everett.



Michael Clark

Mobility Planning + Funding

Michael is a transportation planner in Stantec's Urban Mobility Group. He has over twelve years of experience in transportation planning, working across both the public and private sector. Michael primarily leads transportation planning studies for public and private clients, adopting a comprehensive approach to best grasp of how transportation operates in complex urban environments in order to address how parking, transit, or multimodal travel can work better. His achievements at Stantec include leading a revision of the City of Boston's transportation demand management (TDM) guidelines for large development projects, crafting strategies to push more transit usage in Boston's Seaport District, and guiding several parking studies across the country. Over the course of his career, Michael has designed alternative transportation solutions for the National Park Service, studied the interplay between community development and transit investments, and represented the Commonwealth of Massachusetts in negotiating transportation mitigation related to private development projects.

CREDENTIALS

- B.A., Geography, Boston University
- Master of City & Regional Planning, University of North Carolina

SELECT EXPERIENCE

DHCD Rapid Recovery Plan Program, MA

Michael served as a Plan Facilitator for the Rapid Recovery Plan Program, provided for municipalities by the Commonwealth of Massachusetts.

Leading planning efforts for the North Shore communities of Danvers and Peabody, the Stantec team developed 16 strategies to assist each community with short and long-term recovery efforts from the COVID-19 pandemic. Guided by an evaluation infrastructure conditions and by business outreach in each community and business outreach, these strategies included action plans in topic areas which covered safe gathering spaces, the collective capacity of downtown business communities, coordinated assistance to small businesses, and other economic development and transportation planning topics of interest.

Massachusetts DHCD Rapid Recovery Plan Funding Assistance Program, MA

Michael led the outreach, research, and delivery of over a dozen Funding Assistance Reports for communities across the Commonwealth of Massachusetts. Tasked with developing customized strategies for pursuing funding for project ideas shared by each community, developed as part of the preceding Rapid Recovery Plan program which Michael served as Plan Facilitator for, Michael identified grant programs and other funding options for project ideas as varied as branding, parking, small business assistance, mobility planning, and arts engagement. The strategies defined in each report provided each community with a blueprint for pursuing funding opportunities specific to the project ideas and capacity constraints of each city and town.

MassDOT Shared Streets and Spaces Grant Applications, MA

Using funding assistance from the Barr Foundation, Michael and the Urban Mobility Group assisted communities across Massachusetts with shared streets and spaces concept development and application preparation for a statewide grant program support

quick-build projects to aid recovery from the COVID-19 pandemic. Michael assisted the communities of Plymouth, Watertown, and Arlington with projects which sought to create multimodal opportunities in vehicle-centric neighborhoods for safe recreational travel. These efforts supported local economic development by facilitating local retail opportunities.

Boston Transportation Demand Management Point System, Boston, MA

As Project Manager, Michael led the development of an innovative overhaul of Boston's TDM guidelines for large development projects. The new system allows developers to select TDM measures based on project characteristics, such as land uses and geographic location, to achieve a point target which prioritizes a mix of proven strategies to encourage multimodal travel in the community. This process makes the selection of TDM measures more transparent and less obtrusive of developers. Michael's responsibilities included leading the research and point system framework development tasks, coordinating with several city departments on details for different TDM strategies, and conducting public outreach on the new system for the development community.

South Boston Seaport Strategic Transit Plan, Boston, MA

Stantec is reviewing the operations and capacity of the transit network serving Boston's Seaport District. Michael is helping lead a comprehensive analysis of existing transit conditions and developing potential future strategies to encourage transit use in Boston's Seaport District. Projects, policies, and improvements related to other modes of travel are proposed to inform a broad approach for transit planning in the Seaport, helping the City of Boston define how it desires future travel to and from the district to occur. These strategies were based on key activity points, circulation networks, and primary origins and destinations both locally and regionally.



Liza Cohen

Mobility Planning + Funding

Liza is a skilled planner with expertise in GIS analysis, data collection and visualization, and innovative community engagement techniques. She has worked on a range of projects, from parking and multimodal studies to transit analyses. In each of these, Liza's approach is to synthesize data and community and stakeholder feedback to provide better transportation choices for communities. Her project experience includes developing a variety of data-driven parking management plans for small New England towns as well as cities like Chattanooga and Austin. Liza has also served as deputy project manager on multiple citywide mobility plans and large scale development projects, often leading innovative and comprehensive data collection and analysis efforts.

CREDENTIALS

- M.A., City and Regional Planning, University of Pennsylvania
- B.A., Urban Studies, Bowdoin College

SELECT EXPERIENCE

Burlington Great Streets, Burlington, VT

Liza supported a landscape architecture team to redesign Cherry and Bank Streets in downtown Burlington, VT. Her work focused on ensuring that the application of the City's existing Street Design Guidelines was in line with broader City planning initiatives such as improved transit access and bicycle routes. She also guided the designs to prioritize pedestrian safety and movement through curb cut consolidation, smart use of bump-outs, and activating blank wall space through street furniture placement.



Boston Area BRT Pilots | Barr Foundation | Boston, MA

Liza is providing a planning-level analysis and research in support of this project to pilot elements of bus rapid transit on select bus routes in the Boston region. This includes visualizing schedule data to understand where congestion currently bogs bus service down, as well as a detailed review of street designs to identify opportunities to improve bus service.

MassDOT Shared Streets, Boston, MA

Liza worked as a task manager with cities and towns across the Commonwealth to create quick-build designs in response to MassDOT's "Shared Streets and Spaces" grant program for transportation-related COVID recovery projects. Projects ranged from bus shelters and accessible stops to outdoor dining plazas and resulted in over \$1 million in funding for participating communities.

Poplar Pump Station - Streetscape Design, Somerville, MA

Liza led two components of this study, for which the ultimate goal was to install a large pump station occupying an entire City block to mitigate flooding issues in Somerville.

Liza's role was to lead an interactive yet virtual public engagement process to gain consensus on the design of the park - dubbed ArtFarm - that will go on top of the new pump station, as well as the streets surrounding this new park. Liza also served as the lead transportation planner, developing designs for the streets around the pump station that can both accommodate the heavy trucking necessary to support the pump station and the walking, biking, and transit links that the neighborhood and City want to see.



Re-Imagine Main Street—Complete Streets Project, Hartford, CT

The team collaborated on a design that creates more space for transit via floating bus stops, incorporating a projected cycle track and allowing for appropriate vehicle movement on the corridor.



Evan Drew

PE, PTOE

Traffic Analysis + Design

Evan specializes in traffic and Intelligent Transportation Systems (ITS) engineering. He has supported the planning, analysis, design, implementation, and construction of numerous corridor and intersection improvement projects throughout New England. Evan has strong skills in transportation engineering and planning projects involving traffic signing, pavement markings, traffic management, highway safety, traffic capacity analysis and traffic simulation modeling.

CREDENTIALS

- Professional Engineer in ME and NH
- B.S., Civil Engineering, Georgia Institute of Technology

SELECT EXPERIENCE

Northern Strand Community Trail Extension, Lynn, MA

Responsible for the traffic analysis of a separated two-way bike lane within existing roadway rights-of-way and shared-use path sections for a combined 1.9 miles. The path extension begins at the existing Northern Strand trail terminus at Western Avenue in Lynn and extends approximately 1.9 miles along Market Square, South Common Street, Market Street, and the Lynnway (Carroll Parkway) to Nahant Road at the entrance to the Nahant Beach State Reservation. The project is a cooperative effort between the City of Lynn, the Massachusetts Executive Office of Energy and Environmental Affairs, and the MassDOT Highway Division.

Evan's work included using Synchro and Sidra capacity analysis software to evaluate alternatives and to establish the preferred alternative.

Memorial Drive – Phase III, Cambridge, MA

Responsible for the traffic analysis of a 0.8 mile section of roadway along the Charles River extending from the Eliot Bridge to the Anderson Memorial Bridge. Project includes a reduction in roadway width, expansion of existing parkland along Charles River, green stormwater treatments, signal improvements, parking lot reconfiguration, and upgrades of existing bicycle and pedestrian facilities. Evan evaluated existing conditions, established future traffic conditions and conducted intersection capacity analysis to document the impacts of the preferred design alternative.

Lebanon Street Crosswalk Evaluation, Melrose, MA

Responsible for evaluating an unsignalized, two-way stop-controlled intersection along Lebanon Street for existing limitations and proposed pedestrian crossing improvements. The work included an evaluation of existing conditions and a field review to determine if the intersection could safely accommodate a pedestrian crosswalk across Lebanon Street. Crashes, vehicle speeds and sight distance were all evaluated as part of the assessment.

Sylvan Street Improvements, Melrose, MA

Responsible for evaluating improvement alternatives for Sylvan Street based on a capacity analysis and current MUTCD and MassDOT standards. Evaluation included the addition of bicycle lanes, modifications to existing traffic signal phasings and timings, and additional pavement markings and signage.

Nashua Downtown Circulation Study*, Nashua, NH

Evan was the lead traffic engineer for an effort to assist the City of Nashua evaluate several concepts to improve traffic movement of all kinds through its downtown. The alternatives ranged from reversing direction of existing one-way streets, two-way streets turned into one-way streets, one-way streets into two-way streets, and the required intersection and roadway cross-section improvements required to accomplish these preliminary ideas. Evan utilized existing and future no-build and build traffic volumes to develop Synchro/SimTraffic modeling and evaluating traffic operations through several major intersections within the City. Results were formalized into a report for future considerations of projects to emphasize safety and the local community in making these adjustments.

Traffic Signal Optimizations*, NH

Traffic engineer for optimizing traffic signal timings, time-of-day plans, and coordination for 70 intersections through the State of New Hampshire along corridors of varying congestion and lengths. Project tasks included existing signal system inventories, capacity and timing analysis for existing and proposed conditions using traffic software that included Synchro, SimTraffic, and Tru-Traffic. GPS runs through the corridors at peak and off-peak volume periods in pre- and post-construction conditions were documented as existing and build condition real-time results to compare to office analysis. Participated in development of bid book, specifications, and estimates, as well as post-construction punch list and inventory.

**Completed previous to employment with Stantec*



Sarah Borenstein
EIT

Traffic Analysis + Design

Sarah Borenstein assists on a variety of traffic and roadway planning and design projects. She has conducted assessments of existing traffic volumes and has completed projections of anticipated future traffic volumes, taking into account population growth and growth due to commercial development. Sarah is proficient in modeling traffic networks using a variety of traffic engineering analytical and simulation software, including Synchro, HCS, Sidra and SimTraffic. Sarah uses these tools to evaluate both baseline and anticipated future traffic conditions and geometries. Additionally, she is experienced in the layout of traffic signs and pavement markings. Sarah also develops complex traffic management plans to accommodate staged construction of roadway and bridge improvements.

CREDENTIALS

- B.S., Architectural Engineering, Wentworth Institute of Technology

SELECT EXPERIENCE

Spring Hill Sewer Separation, Somerville, MA

In addition to sewer separation and subsurface utility improvements, the project includes the development of five complete streets corridors with a focus on urban mobility, incorporation of green infrastructure and tree canopy improvements, and an integrated community engagement process. Sarah developed the layout of the traffic signal and Complete Streets traffic improvements for the project.

Highland Avenue/Needham Street Corridor Improvements, Needham/Newton, MA

The project consists of the reconstruction of the Highland Avenue/Needham Street corridor to improve bicycle and pedestrian facilities along the 1.7 mile long corridor. A raised bicycle lane is proposed to be constructed along with reconstructed sidewalks and pedestrian curb ramps. Traffic signal systems along the corridor will be reconstructed and will feature Adaptive Traffic Signal Control. Sarah conducted a traffic study and signal analysis of this busy commercial corridor, modeling different alternatives in order to establish the recommended design alternative. She developed corridor layout concepts to improve traffic flow and bicycle/pedestrian access. Sarah also supported the traffic signal system design for seven intersections and the design of the traffic signs and pavement markings.

Route 151 Corridor Improvements, Mashpee, MA

The project consists of the reconstruction of Route 151, including three signalized intersections. A multi-use path is proposed along Route 151 to enhance bicycle and pedestrian connections. Sarah conducted a traffic study, including signal analysis of the corridor to provide support for the recommended design. Sarah also developed corridor layout alternatives with a goal of improving traffic flow while also providing bicycle and pedestrian access along Route 151.

Route 134 Safety Improvements, Dennis, MA

Conducted field reconnaissance and signal analysis of the corridor in order to enhance safety in the area. Developed intersection layout concepts to improve bicycle and pedestrian access along Route 134.

Malden Center, Malden, MA

Conducted field reconnaissance and a feasibility study to provide traffic engineering assistance to evaluate the potential changes in circulation of a section of Washington Street and Garnet Road, in downtown Malden.

Road Safety Audits, Worcester and Swampscott, MA

Utilized police reports to create detailed crash diagrams used to conduct a thorough evaluation of existing crash trends and causes. Conducted Road Safety Audit with participation of town departments, planning organizations, and transportation officials. Developed report for MassDOT, which led to the establishment of construction projects with state funding to implement the recommendations of the Audit and enhance safety.

Main Street Improvements, Worcester, MA

Sarah developed overall traffic engineering design elements, including the layout of pavement markings and traffic signs. Sarah also completed the design and layout of the traffic signal system reconstruction and developed maintenance of traffic design during construction for this improvement project near Clark University. The project consisted of improvements to Main Street as a result of a Road Safety Audit. These improvements included replacement of an aging traffic signal system, establishment of a mid-block crossing to facilitate desire lines between campus buildings and the reconstruction of the roadway to improve sidewalks and to include a dedicated bicycle lane.



Marlin Hueil

EIT

 Roadway Design

Marlin has assisted with technical design for roadway and shared use path/trail projects. He has contributed to various transportation projects by preparing design plans, contract drawings, cost estimates, and environmental impact evaluation. Marlin has also contributed to various asset management projects through pavement, sidewalk, and pedestrian ramp assessments.

CREDENTIALS

- B.S. In Civil Engineering, University of New Hampshire

SELECT EXPERIENCE

Memorial Drive – Phase III, Cambridge, MA

Project Engineer responsible for design and development of a 0.8 mile section of roadway along the Charles River extending from the Eliot Bridge to the Anderson Memorial Bridge. Project includes a reduction in roadway width, expansion of existing parkland along Charles River, implementation of green stormwater treatment alternatives, existing signal improvements, parking lot reconfiguration, and upgrades of existing bicycle and pedestrian facilities. Project will provide public access to the Charles River while also improving safety for non-motorized commuters along the Charles River Basin.



Lebanon Street Improvements Project, Melrose, MA

Project engineer responsible development of concept level design of improvements to 1 mile corridor along Lebanon St between the Malden City Line and Grove Street in Melrose, Massachusetts. Project includes a complete streets design of the existing corridor to improve bicycle and pedestrian accommodations. Improvements to existing signal, safety and wayfinding signage and drainage are also proposed. Project will provide safe access for adjacent neighborhoods to schools, transportation, and public open space.



Border to Boston Trail, Salisbury, MA

Assistant Engineer responsible for preparing design plans and estimate for 19-mile northern section of the Border to Boston project from Topsfield/Boxford line north to the New Hampshire border through the towns of Boxford, Georgetown, Newbury, and Salisbury. Responsibilities include preparation of design plans and engineer's estimate.

Essex Street Revitalization, Melrose, MA

2,400 feet of roadway and sidewalk reconstruction including the installation of street furnishing and landscaping for the City of Melrose. As Assistant Engineer, aided in the design and development of the corridor from conceptual stages to construction. Developed conceptual alternatives to be presented to the City officials and project committee members.

Twin Cities Rail Trail, Leominster/Fitchburg, MA

Assistant Engineer for 4+ miles of shared use path connecting the city centers of Leominster and Fitchburg. Design includes a switchback structure and bridge over MBTA railway to provide a connection to the Fitchburg MBTA Commuter Rail Station. Project also includes proposed landscaping and amenities. Responsibilities include preparation of design plans and engineer's estimate.

Asset Management Services, Somerville, MA

Assistant Engineer assisting with GIS, data collection and sidewalk and pedestrian ramp asset assessments. Developed project level engineers estimate for planned pavement, sidewalk, pedestrian ramp, and drainage improvements



Marie Sullivan

PE

Roadway Design

With over 27 years of experience, Marie's keen eye for detail and constructability has contributed to the successful completion of numerous transportation projects in the region. This experience ranges from urban roadway design to secondary roadway reconstruction to traffic safety improvement projects.

CREDENTIALS

- Professional Engineer #41299, Commonwealth of Massachusetts
- BS, Civil Engineering, University of Massachusetts - Lowell

SELECT EXPERIENCE

Responsible for the quality or independent review of design plans, specifications, and quantity estimates for the following projects:

- **Nonantum Road Improvements, Newton, Watertown, Boston, MA**
- **Route 151 Corridor Improvements, Mashpee, MA**
- **Route 1/1A/123 Reconstruction, Attleboro, MA**
- **(Paradise Road) at Swampscott Mall Intersection & Signal Improvements, Swampscott, MA**
- **River Street Bridge Replacement, Boston, MA**
- **Bay Street Bridge Replacement, Taunton, MA**

Highland Avenue/Needham Street Corridor Improvements, Needham/Newton, MA

Project Manager for this 7,000 foot long corridor project. Key design elements include roadway widening for turn lanes and bike lanes, modifications to bridge over the Charles River to allow an additional lane of traffic on the existing bridge and cantilevered sidewalks on each side of the existing bridge to accommodate pedestrians, utility relocations, environmental permitting, traffic signal installation. The upgrade will accommodate present and projected development along the corridor while minimizing takings and adverse environmental impacts.

Canton Street/ University Avenue Intersection, Canton/ Norwood/Westwood, MA

Project Manager for this roadway reconstruction project. The intersection was designed to accommodate increased traffic volume from the adjacent private development. Design elements included roadway widening to accommodate additional turn lanes, a new sidewalk, new traffic signal system, utility relocations, a culvert extension, new retaining walls, and new signing/stripping. Responsible for facilitating the construction phase services including reviewing and responding to shop drawings, Requests for Information, and revising plans according to field changes.

Oak Street / Christina Street / Needham Street Intersection, Newton, MA

Project Manager for this intersection improvement project. Design elements include realignment and addition of a left turn lane on Christina Street, traffic signal replacement, retaining wall, and ADA complaint sidewalks. A new drainage swale is being coordinated with local Conservation Commission to provide improved stormwater runoff treatment.

Highland Avenue / First Avenue Intersection, Needham, MA

Project Manager for this intersection improvements project. Design elements include roadway widening for left turn lanes and 5 foot wide bike lanes, removing a center median that currently prevents left turns, new traffic signal installation, ADA compliant sidewalks, drainage modifications, signing, and striping.

Traffic Signal & Intersection Improvements at Route 105 (South Main Street) & I-495 Ramps, Middleborough, MA

Served as Project Engineer for 0.4 mile safety improvements project along South Main Street (Route 105) at its interchange with I-495. Design elements include new traffic signal systems at the two ramp connections to I-495, roadway widening for turning lanes along the mainline and ramps, continuous ADA compliant sidewalks throughout the project corridor, utility relocations, stormwater detention pond, and new signing/stripping.



Heidi Peper

Funding

With 26 years of experience in community and economic development, Heidi works on solving complex funding problems—her experience ranges from pedestrian trails to highways, wastewater to drinking water projects. Heidi is one of the US leaders for Stantec's North American Funding Program, a coordinated network of more than 150 funding specialists across the country. Throughout her career, Heidi has successfully secured more than \$200 million in grants for clients' projects. Her experience in project development and securing affordable financing packages—including grants, legislative appropriations, and other financial incentive programs—has been a valuable resource in moving projects to a successful conclusion. This experience includes securing funding from the US Economic Development Administration (EDA) and similar federal agencies such as USDA Rural Development and securing multiple funding sources on projects.

CREDENTIALS

- B.S., Community Development/Public Relations, Saint Cloud State University

SELECT EXPERIENCE

DHCD Rapid Recovery Plan Program, MA

Marie served as a funding specialist for the Rapid Recovery Plan Program, provided for municipalities by the Commonwealth of Massachusetts. Leading planning efforts for the North Shore communities of Danvers and Peabody, the Stantec team developed 16 strategies to assist each community with short and long-term recovery efforts from the COVID-19 pandemic.

Blue Hill Avenue Multimodal Corridor, Boston, MA

Heidi was responsible for securing funding on this project. She led the team in authoring a successful Rebuilding American Infrastructure with Sustainability and Equity (RAISE) grant application and required submittals, including a benefit cost analysis (BCA) and secured a \$15 million grant for this critical infrastructure project.

Utilities and Road Reconstruction, Holdingford, MN

Heidi was responsible for securing funding on this project. Heidi coordinated the financing application for a \$4,361,000 Grant and Loan package on this utility reconstruction project.

Utilities and Road Reconstruction*, Pine City, MN

Heidi was responsible for securing funding on this project. Heidi coordinated the financing application for a \$2,505,000 Grant and Loan package on this utility reconstruction project.

Industrial Park*, Freeport, MN

Project Funding Specialist responsible for securing funding on this project. Heidi secured an \$888,483 BDPI Grant to extend water, sewer and streets to an expanded Freeport industrial park.

Multi Purpose Community Facility*, Royalton, MN

Project Funding Specialist responsible for securing funding on this project. Heidi secured a \$145,000 grant from the Federal Economic Development Administration to help fund the City's multipurpose government building, housing city hall, library and police station.

Industrial Park Expansion Analysis*, Annandale, MN

Economic Development consultant examining demographic and employment data, existing supply of industrial land, and past sales of industrial land in the area in order to determine the need for additional industrial land. Secured \$3,000 grant to pay for half the cost of the study.

Industrial Park*, Cambridge, MN

Project Funding Specialist responsible for securing funding on this project. Heidi secured a \$224,884 BDPI Grant for a stormwater project to accommodate a growing business in Cambridge.

Waite Avenue Redevelopment*, Waite Park, MN

Project Funding Specialist responsible for securing funding on this project. Heidi secured a \$1,400,000 Grant to spur redevelopment of a key commercial area in the city.

River Country Bike Trail*, Clearwater, MN

Project Funding Specialist responsible for securing funding on this project. Heidi secured a \$680,000 Federal Grant to help fund acquisition, design and construction of the River Country Bike Trail.

Rogers Safe Routes to School Trail*, Rogers, MN

Project Funding Specialist responsible for securing funding on this project. Heidi secured a \$175,000 Grant to help fund acquisition, design and construction of a pedestrian / bike trail connecting a residential neighborhood with the Rogers Middle School.

**Completed previous to employment with Stantec*



Bob Corning
RLA, LEED AP

Roadway Design

Bob has experience managing a wide range of projects that include institutional campus master planning and design, urban streetscape and urban park projects, and site development projects. He also leads the institutional planning and design group for Stantec's Planning & Landscape Architecture group in the Northeast.

Bob has been recognized with numerous awards for excellence in landscape architectural design. Among these awards is a Merit Award in Urban Design from the American Institute of Architects. Bob has also written articles and/or had featured projects in Landscape Architecture, Banker and Tradesman, Health Facilities Management, the Boston Globe, the Boston Herald, and Building Stone Magazine.

CREDENTIALS

- Landscape Architect #983, Commonwealth of Massachusetts
- LEED Accredited Professional, U.S. Green Building Council
- B.A., Landscape Architecture, Cornell University

SELECT EXPERIENCE

Boston College Sculpture & Fountain "Tree of Life", Chestnut Hill, MA

Provided site design for a fountain incorporating the "Tree of Life" sculpture by Peter Rockwell, placed at an important pedestrian crossroads of Boston College's upper Campus.



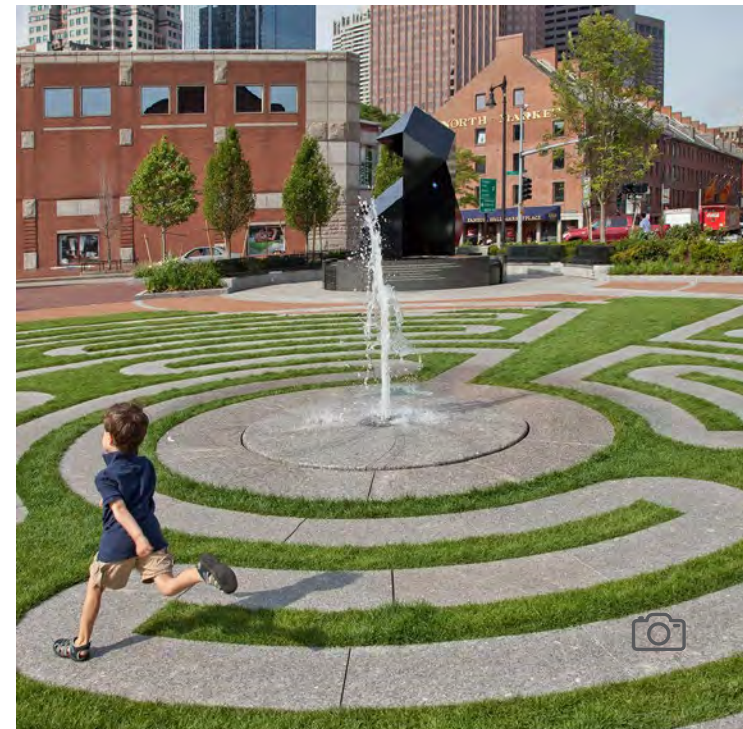
Boston Marathon Memorial, Boston, MA

The Boylston Marker project is a tribute to those that lost their lives at the two sites of the 2013 Marathon Bombings. Directly on Boylston Street, this sacred space provides a permanent marker for the locations of such a tragedy. Pablo Eduardo, artist and sculptor, was selected by the families and the City of Boston to design the markers and lead the design process. Our team is implementing the proposed design, providing landscape architecture; civil engineering; and geotechnical, structural; and electrical engineering services. Bob and our team also have led the public review and approval process. This has included the Boston Civic Design Commission (BCDC), Boston Art Commission, Public Improvements Commission (PIC), Back Bay Architectural Commission (BBAC) among others. Phase 1 of the project which includes the curb re-alignment and infrastructure modifications has been completed. Phase 2 which includes the markers, paving and lighting is scheduled to be installed.



Armenian Heritage Park, Boston, MA

Principal in charge for the design of a four-tenths of an acre park located on the Rose Fitzgerald Kennedy Greenway. Park spaces include a calming lush park, Labyrinth with a reflecting pool, sculpture, and a memorial to remember victims of genocide.



Jason Racette

PLS

Survey

Jason G. Racette, PLS is a registered professional land surveyor licensed to practice in Massachusetts, Connecticut, and Maine. Mr. Racette worked for the Department of the Interior Bureau of Land Management in northern Virginia and Washington, DC from 1992 to 2007, before moving to New Britain, Connecticut and starting his own land surveying company, Boundary Consulting Experts, LLC in 2007. He has been a member of the University of Maine Surveying Engineering Technology Industrial Advisory Committee since 2001, he is a Past Chair of the ABET Applied and Natural Science Accreditation Commission headquartered in Baltimore, Maryland, he has been involved with the National Council of Examiners for Engineering and Surveying located in Greenville, South Carolina since 2005, and is a member of both the National Society of Professional Surveyors and the Maine Society of Land Surveyors.

CREDENTIALS

- Professional Land Surveyor: MA, ME, CT
- Master of Science, Civil Engineering, University of Maine
- Bachelor of Science, Surveying Engineering, University of Maine

SELECT EXPERIENCE

Bristol County Water Authority, East Providence, RI

Responsible for the planning, execution, oversight, quality control, and delivery of an existing conditions route survey, covering 25,300 linear feet of roadway. The existing conditions survey included providing GPS control information to be used as a base for an aerial survey, performing detailed property boundary research, management of field crews collecting topographic and planimetric information, and oversight of multiple survey technicians drafting the final survey plans.

Water, Sewer, and Drainage Replacement Project, Bourne, MA

Responsible for the planning, execution, oversight, quality control, and delivery of an existing conditions route survey, covering 1,100 linear feet of roadway. The existing conditions route survey was used as a base drawing for the replacement of the existing water main and sewer line on Old Bridge Road from the intersection of Main Street to the Cape Cod Canal. A portion of this route survey included completing a property boundary survey as well as the survey of a right-of-way.

Norwood Hospital, Norwood MA

Responsible for the planning, execution, oversight, quality control, and delivery of an existing conditions survey of the Norwood Hospital property in Norwood, Massachusetts. The existing conditions survey included running control for the 3D laser scan of the entire exterior and a majority of the interior of said hospital. Tasks which were also a part of the existing conditions survey included but were not limited to a drone flight of the entire site, property boundary and utility research, on the ground surveys, drafting, and quality assurance/quality control.

Massachusetts Bay Transportation Authority (MBTA) – Bus Corridor Improvements, Boston, Massachusetts and Surrounding Towns

Responsible for the planning, execution, oversight, quality control, and delivery of existing conditions surveys on MBTA bus corridors in and around the Boston area. Existing conditions surveys included drone flights, property boundary and utility research, on the ground surveys, drafting, and quality assurance/quality control.



TEAM AVAILABILITY

The proposed Stantec team has the necessary capacity to complete the project tasks within the required timeline. Current project commitments for key staff are listed in the table below.

KEY STAFF NAME	PRESENT + FUTURE COMMITMENTS	END DATES	ESTIMATED TIME COMMITMENT
Jason Schrieber , <i>Principal-in-Charge</i>	<ul style="list-style-type: none"> One Kenmore Permitting and Design Woodbine Development DHCD Municipal Studies 	2023 August 2022 December 2022	10% 10% 10%
Aleece D'Onofrio , <i>Project Manager</i>	<ul style="list-style-type: none"> Northern Strand Extension (Lynn) Charles River Greenway Rehab (Waltham) Poplar Street Pump Station (Somerville) Stoneham Square Improvements 	2024 June 2022 December 2022 June 2022	15% 5% 10% 10%
Ralph DeNisco , <i>Planning Lead</i>	<ul style="list-style-type: none"> One Kenmore Permitting and Design Boston BRT GBNRTC Region Central Scajaquada Expressway Redesign 	2022 2023 2022	10% 10% 10%
Walt Woo , <i>Design Lead</i>	<ul style="list-style-type: none"> Cape Cod Transportation Improvements Northern Strand Extension (Lynn) North Main Street Reconstruction (Orange) City of Attleboro Intersection Improvements 	2025 2024 2023 August 2022	20% 10% 10% 10%
Erin Cameron , <i>Mobility Planning +Public Engagement</i>	<ul style="list-style-type: none"> South Boston Seaport Strategic Transit Plan One Kenmore Permitting and Design Private Development Project 	March 2022 2023 August 2022	10% 5% 10%
Michael Clark , <i>Mobility Planning + Funding</i>	<ul style="list-style-type: none"> Saco (ME) Parking Study South Boston Seaport Strategic Transit Plan Private Development Project Permitting 	February 2022 March 2022 April 2022	10% 10% 20%

KEY STAFF NAME	PRESENT + FUTURE COMMITMENTS	END DATES	ESTIMATED TIME COMMITMENT
Liza Cohen , <i>Mobility Planning + Public Engagement</i>	<ul style="list-style-type: none"> MassDOT Shared Streets and Spaces Technical Assistance Poplar Street Streetscape Design Route 28 Fare Free Pilot Evaluation MASCO Transportation Framework 	2022 2022 2022 2022	5% 5% 10% 10%
Sarah Borenstein , <i>Traffic Analysis + Roadway Design</i>	<ul style="list-style-type: none"> Memorial Drive Corridor Improvements (Cambridge) Northern Strand Extension (Lynn) Poplar Street Pump Station (Somerville) Highland Ave Corridor (Somerville) 	November 2022 2024 December 2022 2023	15% 15% 5% 15%
Evan Drew , <i>Traffic Analysis + Roadway Design</i>	<ul style="list-style-type: none"> Cape Cod Transportation Improvements Northern Strand Extension (Lynn) VT 15 Essex Corridor Study Poplar Street Pump Station (Somerville) Stoneham Square Improvements 	2025 2024 April 2022 December 2022 June 2022	15% 5% 5% 10% 5%
Marlin Hueil , <i>Roadway Design</i>	<ul style="list-style-type: none"> Memorial Drive Corridor Improvements (Cambridge) Twin Cities Rail Trail - Phase 2 (Fitchburg & Leominster) Stoneham Square Improvements Border to Boston Trail (Georgetown) 	November 2022 2023 June 2022 2023"	15% 5% 10% 10%
Marie Sullivan , <i>Roadway Design</i>	<ul style="list-style-type: none"> Route 53 Resurfacing (Braintree) North Main Street Reconstruction (Orange) Highland Ave Reconstruction CPS (Needham/Newton) 	2023 2023 November 2022	10% 10% 5%
Bob Corning , <i>Landscape Architect</i>	<ul style="list-style-type: none"> Poplar Pump Station 	2025	10%
Heidi Peper , <i>Funding</i>	<ul style="list-style-type: none"> Preston County US EDA Grant Oak Park Heights Funding Strategy Private Development Funding Strategy 	February 2022 January 2022 2023	15% 10% 20%

PROJECT UNDERSTANDING + APPROACH



PROJECT UNDERSTANDING

Change happens slowly then all at once. This is especially true lately in Arlington where the charms and long-established patterns of the Town have brought continued vitality and all the challenges that accompany it. More and varied users are placing demands on Town facilities and staff. The realities, opportunities and conflicts this creates plays out where it most often does – on the street. Circumstances, including an unfortunately tragic one, present real time challenges to all to do the right thing – as if that were easy to determine.

In the area of Mass Ave centered around Appleton Street, these challenges have proven large. The Town recognizes the limitations of what it has been able to do immediately, and now correctly seeks to bring all available tools to bear to create a supportable, fundable and balanced design that meets today's needs, while respecting the history and experience of the area.

The Stantec team is ready to help Arlington meet this moment. We will build upon the lessons learned and work completed to date. We will bring new insights and fresh approaches to understanding all of the mobility patterns here. We will insist on a rigorous planning and design process that maximizes funding eligibility and buildability. Most importantly, we will complete all work in close partnership with the Town and those that love it in all of its complexity.



PROJECT APPROACH

The Stantec team is thrilled for the opportunity to bring its extensive local and national expertise to assist Arlington with long-term planning and design for the Mass Ave/Appleton Street project area. We are excited to work with the Town once again and build upon our previous experience advancing complex transportation projects which prioritize multimodal safety and accessibility while retaining the community character that makes Arlington so beloved.

We specialize in helping communities do the hard work of re-imagining how streets can better serve the expressed demands (and unexpressed needs) of residents, business owners, and travellers. We do this while also focusing on “front door” concerns like placemaking, safety, equity, public health, small business resilience, and environmental sustainability. Our design approach focuses first and foremost on the essential unit of a town: the people. Rather than designing from the perspective of accommodating vehicles, we instead focus on ALL the actual users of streets – people – and the myriad of ways they engage with streets and neighborhoods for travel, socialization, recreation, learning, and retail spending.

Stantec brings a unique understanding of designing for people, which is carried through our well-integrated Core Team. The overall project will be managed by **Aleece D’Onofrio, P.E.** Aleece will work continuously to ensure that all work is completed in a holistic fashion that can lead to fundable and buildable designs. She will be advised by **Jason Schrieber**, Principal-in-Charge, a deeply experienced multimodal planner who most recently led efforts for dozens of communities using MassDOT and DHCD to greatly improve downtowns.

Supporting Aleece, the Project will have both a Planning and a Design Lead, each taking larger roles as the Project evolves and working together always to balance all aspects of the Project.

Ralph DeNisco will serve as Planning Lead.

He has worked with Arlington on the complex implementation of bus lanes on Mass Ave and is recently bringing deeper understanding of integrated travel patterns on a freeway removal project in Buffalo, NY. **Walt Woo, P.E., PTOE** will be the Design Lead. Walt brings deep expertise on roadway, signal and multimodal design to all of his efforts.

Our approach will of necessity follow standard Massachusetts design protocols to maintain the broadest funding eligibility. However, our integrated team understands that the Mass Ave study area has all underlying factors of a great street, but these have proven difficult to unlock. Our team will build on the efforts to date but add a number of other factors:

- Robust upfront planning process, that is focused on goal setting and incorporating all users and voices
- Creative use of new mobility platforms to create an Experiential Guide that documents varying patterns and users over time
- The most comprehensive understanding of the local and national funding environment, based on our ongoing work in the Commonwealth

The following pages detail the Task by Task approach to how Stantec proposes to carry out this work with the Town of Arlington.

Task 1 – Project Management and Coordination

We like to think of clients as professional colleagues that we work with constantly rather than bosses we check in with now and then. To that end, we would weave the key internal and external stakeholders into a tight collaborative routine of coordination calls and regular meetings to maintain close conceptual and technical exchange. We also like to establish a regular reporting schedule with the Town's project manager—our experience suggests weekly coordination calls are effective to maintain a project's momentum and keep it on schedule.

Our approach also inserts a multi-day planning and design "charrette" immediately after the kick-off meeting. This will focus on Town Staff and key stakeholders to review previous understanding and identify parameters that will influence the conceptual design, as early in the process as possible.

Deliverables: Kick-off meeting; draft and final detailed project schedules; subsequent Town stakeholder coordination calls and meetings; weekly project management call.

Task 2 – Existing Conditions

The primary purpose of the Existing Conditions task will be to confirm or augment the conditions identified in the past by the Town, compare these conditions against the short-term changes introduced along the corridor this fall, and set the stage for public engagement, concept design, alternatives analysis, and preliminary and final design. Our assessment will focus on defining the transportation deficiencies affecting the Mass Ave corridor across all travel modes. The data we collect, analysis we conduct, and the local knowledge we'll incorporate will be used to frame this project's narrative from the beginning.

Understanding future conditions in the community, and anticipating how residents, employees, merchants, and general travelers will use this corridor in a long-term condition is of critical importance.

The Existing Conditions evaluation will visually and graphically capture current and anticipated future mobility patterns.

- Our team has broad experience in using location-based survey data to study person throughput, expanding the breadth of more traditional analyses which focus on vehicle throughput.
- We are accustomed to using stop-level APC data to tease out detailed, nuanced, and relatable information on transit system performance and integration.
- We know how to diagnose safety and operational deficiencies in community travel networks; we will carry out such analyses around pedestrian and bicyclist activity hot spots (such as around bus stops and curb ramps) and facilities in order to prepare for the design and implementation of more capital-intensive investments than what is in the field today.

Town Outreach and Review of Past Planning Efforts/Public Feedback

The best projects build upon what came before it. Even "unsuccessful" efforts show important lessons learned. Efforts specific to the Mass Ave/Appleton Street area (such as the 2012 CTPS report) and transportation plans and projects throughout the community (including Connect Arlington, Mass Ave Bus Lanes, and the Town's Complete Streets policy) provide the Town with benchmark principles to bring into this planning process.

As a first step in the Existing Conditions analysis, we will work with Town stakeholders to ensure that the work for this effort, and most importantly goal establishment (Task 3), is in tune with the community narrative regarding how streets should best serve their users and the community at-large. Given the focus on public engagement, a message which is inconsistent with feedback that Town government has gathered over the past several years risks losing hard-earned trust with the public. Support for a long-term design concept must be an outcome of this project; carrying out work in lockstep with past and ongoing efforts of the community will help achieve this support.



Examples of Traffic Capacity Analysis at multiple intersections using Synchro 10 software for the Northern Strand Extension Project in Lynn.

Travel Data Collection

In developing and refining project concepts we feel that communicating how people use the Mass Ave corridor, rather than how vehicles experience it, is often the best way to persuade the public to make the necessary trade offs for more inclusive design. Often, where the casual observer may find a street clogged with traffic, actual usage patterns may point to more walking, bicycling, or transit activity.

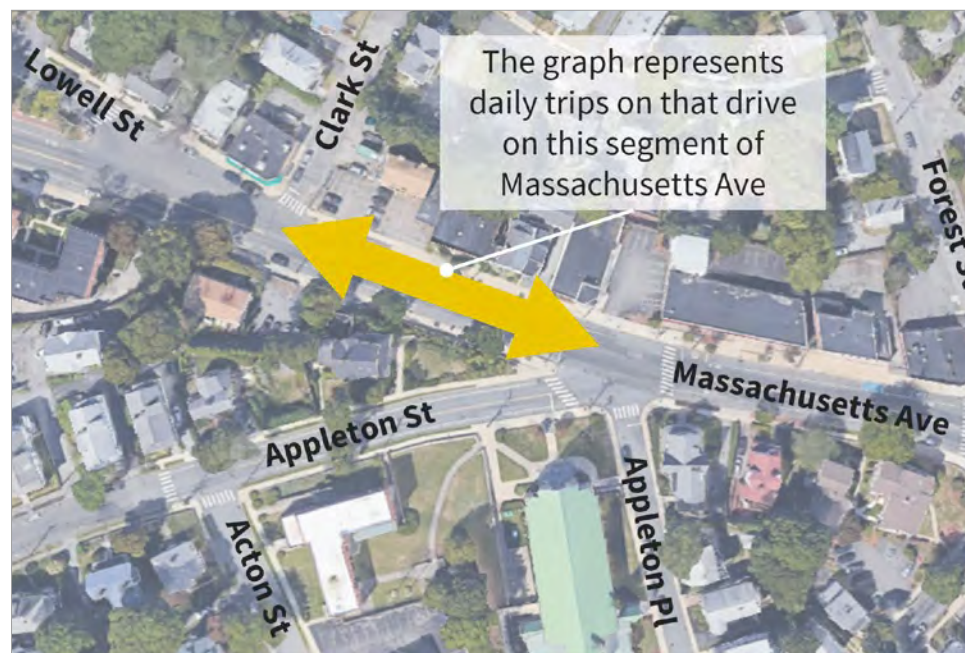
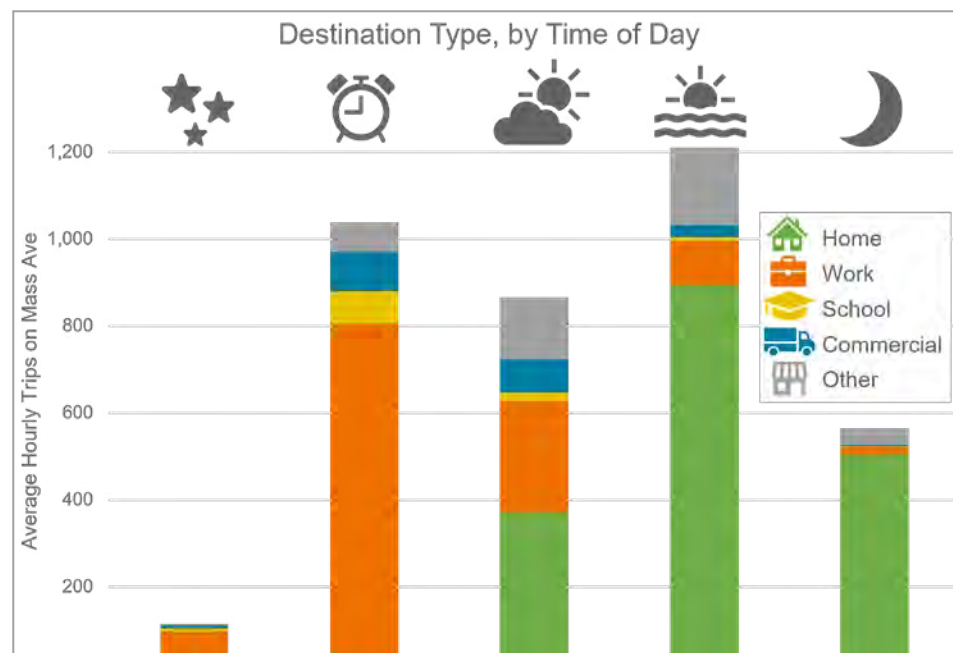
Stantec will coordinate with the Town regarding how to best use existing and collect new multimodal travel data for the project area. We will inventory historical data, including those provided as supplemental materials for this RFP, and determine how to interpret this data in the context of travel disruptions caused by the onset of the COVID-19 pandemic in March 2020.

The types of data we seek to develop a story around include, but are not limited to:

- Roadway geometries, right-of-way, and other key roadway characteristics
- Turning movement counts by intersection
- Traffic control device data, including signal plans and conditions
- Vehicle speeds
- Crash and incident data
- Pedestrian facilities, including sidewalks and crosswalks
- Pedestrian activity
- Bicycle facilities
- Bicyclist activity

- Transit services
- Transit ridership, by route and stop
- Curbside regulations
- Municipal parking facilities (on and off-street)

To conserve project budget, we will only collect new data following discussion with the Town; any new data will inform the resulting design proposal. At a minimum turning movement counts will be required to inform Level of Service analyses for project area intersections, signal plans to conduct warrant reviews and confirm traffic operations, crash data to inform the need for geometric changes.



Travel Pattern Analysis

Understanding travel patterns through the study area will help the team further develop a baseline condition that will inform the ultimate corridor design. Historically, transportation planners and engineers have leaned on travel models to identify and quantify person movements for different modes of transportation. With the advent of cellular wireless device technology, we are able to purchase and interrogate large sets of data informed by anonymized cellular device data that provide information on device movements by time of day, day of week, and other dimensions.

For an effort this important we suggest revisiting these standards and asking Town stakeholders and the public alike how data can be better harnessed to achieve the desired project purpose of a safe and multimodal corridor.

Stantec has worked with many providers, including Replica, AirSage, and StreetLight, who allow us to analyze trip purpose, travel modes, trip origin, destination, route, and time-of-day patterns. This type of information is a game changer when it comes to understanding travel preferences and patterns.

Stantec proposes using the Replica Places model to gather and present data on how people travel through the project area to better understand the role the study corridors play in people's daily lives.

Replica data can reveal observed travel patterns that complement and broaden what is possible using traditional data sources. Using this data, Stantec will capture the mobility experience in the study area by answering questions such as:

- Where are people coming from and going to when they travel within the study area?
- How many people are using private vehicles to access the project area?
- How many people are walking, bicycling, or taking the bus?
- How do people access the study area when coming to shop, eat, or attend services at the church?
- Is use of Mass Ave within the study area locally-focused (primarily draws travelers from within a few miles) or regionally-focused



(used as a passthrough from one destination to another)?

- How does the usage profile change over the course of the day and week?
- How prevalent are school trips on weekday mornings and afternoons? Are trips primarily by commuters?
- What other types of trips are observed in the project area?

We will summarize and present this analysis in a highly visual format using charts and graphs that build an understanding of where, when, and why people use the corridors in the study area.

These materials will be used during the community engagement to build consensus around the existing challenges and gaps, that will inform potential solutions.

Below we have provided some preliminary assessments to show you the possibilities of this type of data source. The graph below reveals when and why people use Mass Ave between Clark Street and Appleton Street.

While traditional traffic counts can reveal temporal patterns on a roadway, these new data sources allow us to layer on trip purposes. True to traditional commute patterns, most people who drive on this corridor are traveling to work on the morning and then home in the afternoon. School trips and commercial/freight trips (such as truck deliveries) peak during the morning. This analysis could be repeated for other modes, times, or trip purposes along the Mass Ave corridor or for other segments within the study area in order to deepen the community and team's understanding of critical travel patterns.

This Use Based data will be prepared as a summary report and be made available at the first major public meeting. Intentionally it will broaden the conversation to show all uses and users and inform goal setting and concept design. Stantec is using this approach currently in a similar project in Buffalo, NY.

Additional Data Collection

In addition to the transportation items detailed in this section, we propose collecting information related to archeological and historic resources, community amenities (often communicated through public outreach, stormwater treatments, utilities, and soils (where contamination may be present). This data is desired partly to flag issues (which may or may not be transportation-related) which may need to be remediated during the design process and as part of construction as well as to comply with requirements to receive state funding.

One of the project's greatest costs will be the street pavement. As a major investment, we propose to use any available Pavement Management Information System (PMIS) distress and ride data to develop a pavement recommendation. Being cognizant of any town's intent to avoid full reconstruction cost, we will evaluate paving strategies, including overlay existing, cold plane and overlay, reclamation, and limited full depth reconstruction if necessary.

The pavement recommendation will include consideration of cost-effectiveness, repair of the specific problems of the existing pavement, prevention of future problems, and meeting the existing constraints of the project.

Survey

The project team will conduct a full topographic ground survey of the project area, approximately 2,300 linear feet along Massachusetts Ave and portions of connecting streets in accordance with MassDOT's current CAD standards. This includes locating utilities within the limit of the surveys utilizing surface evidence located during field surveys and available record information; compiling the location of parcel boundaries using available GIS assessors' information; and importing building footprints from available GIS data. Additionally, Dawood Engineering Inc., led by Jason Racette, will compile field and record data and perform survey calculations necessary to re-establish the roadway right-of-way based on record plans. This information is necessary should any takings or easements be required as part of the project construction. A detailed survey scope from the Dawood team is attached in the Appendix of this proposal.

Deliverables: Existing conditions memo with collected information and analysis; pavement recommendation

Task 3 – Establish Goals

It is important to establish consensus around a succinct set of goals on which to guide concept development and, ultimately, select the preferred concept. Based on the existing conditions analysis and community engagement, Stantec will draft an initial list of goals to be refined with input from the Town. An updated draft of the goals will be unveiled and refined over the course of the charrette based on public and stakeholder feedback.

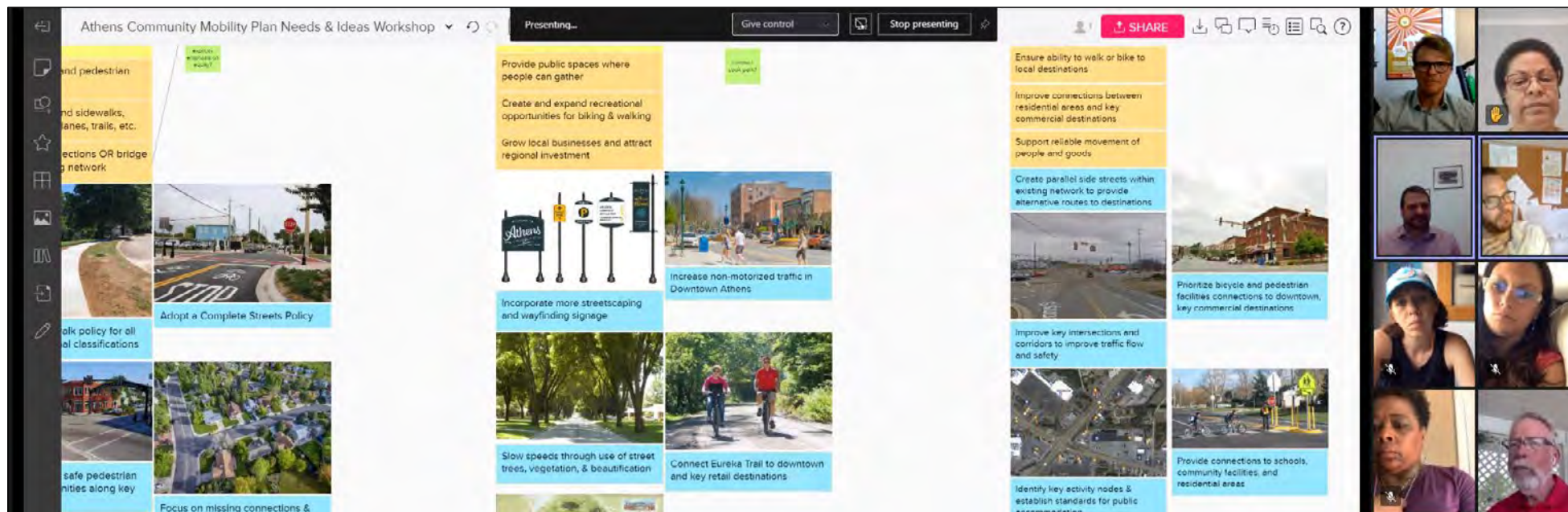
Potential goals for consideration may include:

- Create safe, comfortable spaces to walk and bike
- Make Arlington more sustainable and resilient
- Support economic vitality
- Reinforce and strengthen Arlington's local character
- Eliminate the risk of crashes, protecting users of all modes
- Create a pedestrian-centric intersection, with high pedestrian levels of service resulting from short pedestrian crossings and frequent crossing intervals
- Design a bicycle-friendly environment with low bicycle level of traffic stress (BLTS) to encourage the use of alternative modes
- Prioritize pedestrians and bicyclists without substantially increasing vehicle travel time
- Accommodate travel paths from all destinations and origins across town
- Preserving and strengthening character of surrounding neighborhood
- Develop a project that is fundable

Ultimately, the design team will need to consider a variety of these goals with concept development and preferred design selection. Having an established list with buy-in from stakeholders and community members will help make sure that those trade offs are in service of the community's goals, and make it easy to report back to the community on how their priorities inform the outcomes.

Deliverables: Stantec will prepare a draft list of goals, followed by a refined, final set of goals based on Town, stakeholder, and community feedback.

POTENTIAL FUNDING SOURCES	PROVIDER AGENCY	ALLOCATION	APPLICATIONS DUE
MassWorks Infrastructure Program	Department of Housing & Community Development	Average FY21 award was approximately \$1.85 million	Spring
Complete Streets Funding Program	MassDOT	\$400,000 over a four year period	Spring and Autumn
Congestion Mitigation and Air Quality Program	MassDOT (via funding from the Federal Highway Administration)	Varies based on federal provision and number of project applications received	Winter
Shared Streets and Spaces Grant	MassDOT	\$300,000	At MassDOT's discretion
Transportation Alternatives	MassDOT (via funding from the Federal Highway Administration)	Varies based on federal provision and number of project applications received	Winter
Transportation Improvement Program	MassDOT (via funding from the Federal Highway Administration)	Over the FFY22-26 period, 45 projects are funded in the Boston MPO at an average of \$11.5 million per project.	Winter
Ready-to-Launch Grant	National Center for Mobility Management	\$75,000	Autumn



Stantec has had success using Mural, a virtual workspace where users can draw and write their own feedback in real time while the team reviews materials together

Task 4 – Funding Options

We understand how complex and complicated the project development process can be, particularly once the Town is ready to transition from design to construction. We also understand the importance of pursuing construction funding while planning and design is ongoing; the steps needed to satisfy the requirements of State and Federal funding programs can take months to navigate. The immediate need for wholesale change along the Mass Ave corridor does not afford the Town any opportunity to wait, and a lag between the end of project design and beginning of construction risks losing momentum associated with community engagement and advocacy.

The Stantec team has several successful examples of helping communities in Massachusetts and across the country pursue and win transformative grant money.

Heidi Peper of our North American Funding Program will be leading the effort to leave no stone unturned regarding available funding for constructing this project.

In Boston, Heidi and Planning Lead Ralph DeNisco successfully led the evaluation and drafting of a Rebuilding American Infrastructure with Sustainability and Equity (RAISE) application for the Blue Hill Ave corridor. Awarded a \$15 million RAISE grant this past November, the funding will be used to help reconstruct the corridor to provide center-running bus lanes, improved pedestrian and bicycle safety and accessibility, and incorporate several placemaking elements.

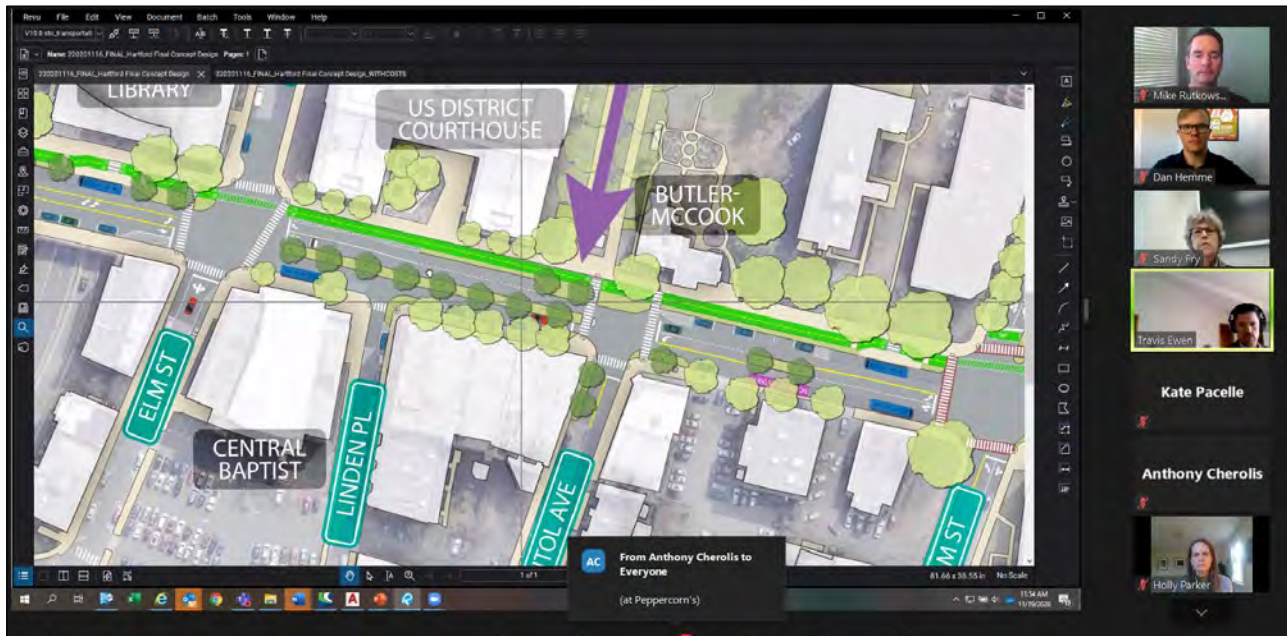
Heidi, Principal-in-Charge Jason Schrieber, and Planner Michael Clark have also been spearheading technical assistance for communities across the Commonwealth in investigating funding options for municipal projects which stemmed from the Department of Housing and Community Development's (DHCD) Rapid Recovery Program. Working with a database of over 200 grant programs, Stantec supported nearly 80 communities in a tight two-month timeframe with suggesting viable funding options to pursue for selected projects and provided an overarching strategy for municipalities informed by grant program funding

cycles, project characteristics, and staff capacity at the municipal level. Our database for the DHCD program yielded funding opportunities which, at a minimum, we will work with the Town to pursue.

Our planning and design efforts will strive to seamlessly fit in with the requirements for these programs, most importantly MassWorks but others as well.

Task 5 – Public Engagement

Designing with community in mind is what Stantec is all about. Not only do we believe that directly engaging stakeholders and the public in our work early in the process is extremely valuable for achieving consensus, we have proven this formula successful time and time again. Only by listening directly to the stakeholders who know their streets; who live, work, and play on them daily; whose businesses rely on the "front door" of the street—can we achieve a successful design.



Whether in person or virtually, Stantec is skilled at meeting facilitation. We even have experience hosting pop-up events outdoors, which can be a safer way to integrate some in-person engagement into a largely virtual engagement program.

The community in Arlington is already engaged with the Mass Ave/Appleton Street intersection and they are a large reason this study is underway. The townspeople have been clear that a safer, better designed intersection is of the utmost concern. Our team wants to capitalize on this engagement by continuing to involve the community and local stakeholders in the decision process.

We will work closely with the Town to design a public engagement strategy which engages with a wide variety of stakeholders, including hard to reach populations. We recognize the presence of Environmental Justice (EJ) populations (minority and language-isolated) in the northern and eastern parts of Arlington, adjacent to the study area. Outreach to the “usual suspects” will not be enough for this effort as needed; we will work with bi-lingual staff (from Stantec or the Town) to meet people where they are with translations available as needed. In addition to the targeted outreach which is desired for businesses, abutters, advocates, and interested Town committees,

we avail ourselves for targeted conversations with individuals or groups who desire more involvement.

Key stakeholders and organizations to engage will likely include:

- Arlington Department of Planning and Community Development
- The Church and school, including parents
- Arlington Parks & Recreation Commission
- Arlington Department of Public Works
- Arlington Bicycle Advisory Committee (ABAC)
- Massachusetts Department of Transportation (MassDOT)
- Arlington Police Department
- Arlington Fire Department & other emergency response agencies
- Adjacent Property Owners

- Residents
- Transit Riders
- Local Businesses

Listening to and learning from these stakeholders is an invaluable way to identify pitfalls and avoid costly redesigns, but we know that engaging people to directly participate in the conceptual design process gives a sense of ownership that is the best form of consensus-building. We could propose a great street that works for everyone; but it will only be an embraced success if stakeholders played a hand in its evolution. This type of discussion is what Arlington needs to maintain the momentum of the Mass Ave redesign for years to come.

Key staff from this group may also join the biweekly project management calls for updates as appropriate to build consensus and avoid changes further in the process.

The public engagement program will be anchored around five key stakeholder and public meetings:

1. **Stakeholder Workshop** – The team proposes a kick-off workshop with key Town staff and stakeholders. During this workshop we will discuss goals, past planning efforts, initial ideas, and set the overall direction for the project.

This workshop will be held virtually, using an online collaboration platform to generate interactivity and open discussion. Newer tools allow us to maintain the same level of engagement virtually as with the traditional in-person model. For example, Stantec has utilized Mural, an online collaboration tool that simulates a whiteboard space with project materials pinned onto it.

Participants can join and add feedback in real time during a meeting, or afterwards if they want more time to dive into the materials. Everyone can view each other's feedback the same way they could while standing over a map exercise in person. We can also hold break out conversations with smaller groups based on a particular perspective or focus area.

Key stakeholder workshop topics:

- Project Introduction
- Goals & Priorities
- Past planning efforts
- Initial Ideas

2. **Public Meeting #1: Goals and Priorities**– In the second month of the project, the team would hold a public meeting to introduce the project to the larger public, share the existing conditions analysis, and generate actionable feedback.

This meeting will be held as a virtual webinar that people can join via link, and on platforms such as Facebook Live.

The Stantec team can also be flexible to incorporate in-person elements or exhibits as desired by the Town based on current COVID risks. The team will share insights about existing conditions that will drive the design process. The User Experience Guide will be presented to offer additional insights.

The team will design interactive elements that can be done virtually, such as polling and adding notes to an interactive map or Mural board. The meeting can be recorded and advertised through the Town's website and other communication channels, with options for submitting feedback during an open comment period after the meeting. The team will use feedback on goals and priorities from Public Meeting #1 as inputs to catalyze the concept design process (task 6).

Key public Meeting 1 Topics:

- Project Introduction
- Goals & Priorities
- Early existing conditions findings

3. **Public Meeting #2: Conceptual Design and Funding Options** – The team proposes a second public meeting around the fifth month of the project to share the concept designs and alternatives analysis. The team will present graphically rich, easily understandable design renderings of each option, outlining the key components of each and how they relate to the goals established based on public meeting #1. The team will also share precedent imagery for design details, showing how the built condition could look.

Meeting attendees will have the opportunity to vote on their priorities and provide feedback on which elements they would like to see carried through into the in the final design stages.

The team will also share potential funding sources and implementation strategies, as these are important factors to consider in concept selection and final schedule. As with Public Meeting #1, the Stantec team plans to hold this public meeting virtually but can be flexible to accommodate an in-person program as allowed by the current COVID risks and concerns.

Key Public Meeting 2 Topics:

- Concept Designs
- Alternatives Analysis

4. **Public Meeting #3: Preliminary Design (25%)** – The third public meeting will be held around the seventh month of the project, after the submission of the 25% design deliverable.

The Stantec team will present the selected concept and why it was chosen based on stakeholder and community feedback in prior meetings. The team will share how the selected concept advances the project goals. The public will have the opportunity to view the design in more detail, ask questions, and make comments about changes they would like the team to explore. At this meeting, it will be important to communicate the design visually to a non-technical audience so they can visualize the change and provide actionable feedback, while also providing enough technical information to get buy in from key decision makers. As with prior public meetings, the team proposes to hold this meeting virtually, but can be flexible to determine what, if any, in-person elements should be offered based on the ever changing COVID risk levels.

Key Public Meeting 4 Topics

- Review 25% Design

5. **Public Meeting #4: Review Draft Final Design** – The final public meeting will be held in the tenth month of the project, allowing for the team to unveil the final design details and show how the design was adapted based on feedback from Public Meeting #3.

Key Public Meeting 5 Topics

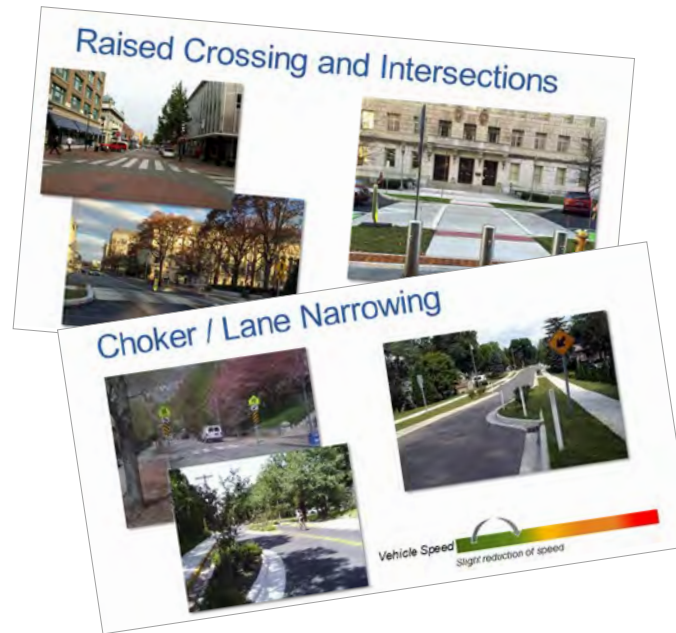
- Review Draft Final Design

Deliverables: Stakeholder interviews; stakeholder engagement summary memo; public meeting presentation materials; public meeting summary memo.

Task 6– Concept Design and Alternatives Analysis

Informed by Tasks 2-5, the team will develop two conceptual designs for Mass Ave at Appleton Street. These conceptual designs will form the basis to decide what major features are carried forward or modified in further detail in final design. In addition to stakeholder input, our team will be sure to incorporate the wealth of valuable design and construction standards outlined in the Town's previous studies, materials developed through the Mass Ave/Appleton Design Review Committee, and best practice guides like NACTO's Urban Streets Design Guide.

It is anticipated the design will contribute to the safety for all users, make businesses stronger, provide public space, incorporate flexibility to meet future needs, and provide an ecosystem that manages stormwater. The design will consider cost effective, durable and maintainable features and identify the location of sidewalks, crosswalks, street trees and lighting, bicycle facilities, transit facilities, traffic signals, parking facilities, traffic calming features, gateway and streetscape elements, stormwater treatment, utility improvements, and public art space.



The designs will be presented at a public meeting in the spring, as well as in interim stages with Town staff and the Mass Ave/Appleton Design Review Committee. Through these engagements, our team will refine the concepts and optional design elements to best meet the expectations of the stakeholders involved.

To understand costs and make budget decisions, experience has proven a detailed itemized opinion of probable cost at conceptual design is needed. This allows us to summarize cost by key elements and so as clients can determine what features to move forward and discuss what features could be done under a future phase. This way the design can accommodate future elements.

For instance, we often include underground conduit in our construction plans. This allows for communication or electrical service to future elements such as Intelligent Transportation Systems (ITS), including adaptive traffic control, transit priority and parking management. The result of the conceptual plan phase will be a well-documented direction for future plan development.

Deliverables: Conceptual design plans (title sheet, typical sections, cross sections, stormwater concept, streetscape concepts, construction/traffic phasing), utility conflicts, list of anticipated permits, visualization images, public presentation, and stakeholder/public meeting notes.

Task 7– Preliminary and Final Design

Our typical scope steps for plan development include:

1. Prepare Preliminary Design (25%) plans and a preliminary opinion of probable cost for formal submission to the Town of Arlington
2. Address all Town comments on Preliminary Design (25%) Review
3. Prepare Final Design (75/100%) plans, technical specifications and opinion of probable cost for formal submission to the Town of Arlington
4. Address all Town comments on Final Design (75/100%) Review
5. Prepare preliminary right-of-way plans IF any takings or easements are required
6. Prepare final Bid Set (plans, technical specifications and opinion of probable cost) and make final submittals to Town for bidding

The Concept Design (Task 6) will be advanced through the Preliminary Design (25%) phase utilizing the survey base mapping (Task 2). The Preliminary Design (25%) forms the basis of coordinating property owner and utility impacts, construction easements, acquiring rights-of-way (ROW), relocations and replacements, developing environmental permit applications and solidifying the project details and probable costs. Preliminary Design (25%) plans need to include details for traffic signal modifications, street lighting, and drainage/stormwater facilities and their design needs to avoid, to the extent practicable, impacts to utilities and ROW.

Team members understand it is imperative to know the utility needs and ROW needs at this phase. Experience has proven the best way to save costs and time is to know what exists today and consider designs that avoid utility or ROW impacts if possible. Initial coordination with the utility companies will be conducted. Stantec will send (1) one letter to the known utility companies seeking input from them on their existing plans and impact the project will have. Existing and reset utility pole locations will be noted on the plans. An estimated cost for the reset poles will be included as a force account line item in the opinion of probable costs.

As with many of our urban projects, we anticipate developing curb tie alignment and grading plans. This will assure ADA compliance and assist the contractor and resident engineer during construction. A transportation management plan (TMP) will be developed. This will include temporary traffic control plans, a transportation operations plan to address traffic management strategies and coordination with other concurrent projects.

Anticipated plans to be included as part of the Preliminary Design (25%) are:

- Title Sheet
- Key Plan Sheet
- Legend, Abbreviations and General Notes Sheet
- Typical Sections Sheet(s)
- Construction Plan Sheets (including drainage and utilities)
- Profile Sheets
- Sign and Pavement Marking Plan Sheets
- Traffic Signal Plan Sheets
- Temporary Traffic Control Plan (TTCP) Sheets
- Construction Details Sheets

As part of a review of the Existing Conditions (Task 2) and in conjunction with both the Concept and Preliminary Design development, screening the project limits for impacts to environmental, cultural and historical areas is critical to maintaining an aggressive design schedule and working permitting into the appropriate design stage. Any type of state funding for transportation improvements requires compliance with the Massachusetts Environmental Policy Act (MEPA). Exceeding any project review thresholds (301 CMR 11.03) requires the filing of an Environmental Notification Form (ENF). As an example, one review threshold to be aware of – and avoid exceeding – is the removal of five (5) or more mature public shade trees. Not only would this require the preparation and filing of an ENF, but in accordance with regulation that becomes effective on January 1, 2022, projects within 1-mile of an Environmental Justice (EJ) population – as this project corridor is – also require the filing of an additional Environmental Impact Report (EIR) focused on EJ community impact and mitigation.



This concept rendering was done as part of the MassDOT Shared Streets & Spaces effort for Montague, MA. The rendering shows the proposed improvements for sidewalk and a new pedestrian crossing to Unity Park, in a way that is technically sound but also legible by a non-technical audience. The project was bid and constructed, as shown in the photo. The planning, design, and construction all occurred in 2021.

This additional filing could have an impact on the overall design schedule and is why it's important to be aware of these thresholds as we begin the design process. Following a review of the Preliminary Design (25%) and approval by the Town, the Final Design (75/100%) phase will commence. Final Design (75/100%) plans, technical specifications and a revised opinion of probable cost will be prepared along with Preliminary ROW plans IF any takings or easements are required. If any takings or easements are needed as part of the project and require recordable plans prepared by a Professional Land Surveyor (PLS), Dawood could provide this as an additional service.

Anticipated plans to be included as part of the Final Design (75/100%) are:

- Title Sheet
- Key Plan Sheet
- Legend, Abbreviations and General Notes Sheet
- Typical Sections Sheet(s)
- Construction Plan Sheets (including drainage and utilities)
- Profile Sheets
- Survey Control Plan Sheets
- Curb Tie and Grading Plan Sheets
- Sign and Pavement Marking Plan Sheets
- Traffic Sign Summary Sheets
- Traffic Signal Plan Sheets
- Traffic Detail Sheets
- Temporary Traffic Control Plan (TTCP) Sheets
- Landscape/Streetscape Plan Sheets
- Construction Details Sheets

- Pedestrian Ramp / Driveway Detail Sheets
- Cross Sections

Stantec will incorporate comments from the Town on the Final Design (75/100%) Submission and prepare a final set of bid ready documents for the Town, consisting of final contract plans, technical specifications, and a revised opinion of probable cost. These materials form the basis of a contractor's bid and need to be complete, accurate to the design, and closely reviewed. Stantec's process for Quality Control and Quality Assurance is performed during each design phase and considered an important part of our design process. The Town of Arlington is responsible for preparing the contractual language (front end standard contract terms) of the bid set incorporating the technical specifications. No bid phase support or construction administration services are included as part of this proposal but could be provided by Stantec as an additional service.

Deliverables: Preliminary Design (25%) plans (title sheet, key plan, typical sections, profiles, cross sections, drainage/ stormwater layout and details, traffic control sheets, traffic signal plans, sign and pavement marking plans, and construction details), itemized quantities and an opinion of probable cost, response to one set of consolidated Preliminary Design Review comments from the Town.

Final Design (75/100%) plans (title sheet, key plan, typical sections, profiles, cross sections, survey control plans, drainage/ stormwater layout and details, curb tie alignment/grading sheets, landscape/streetscape sheets, traffic control sheets, traffic signal plans, sign and pavement marking plans, and construction details), Preliminary ROW Plans, updated itemized quantities, a revised opinion of probable cost, and technical specifications.

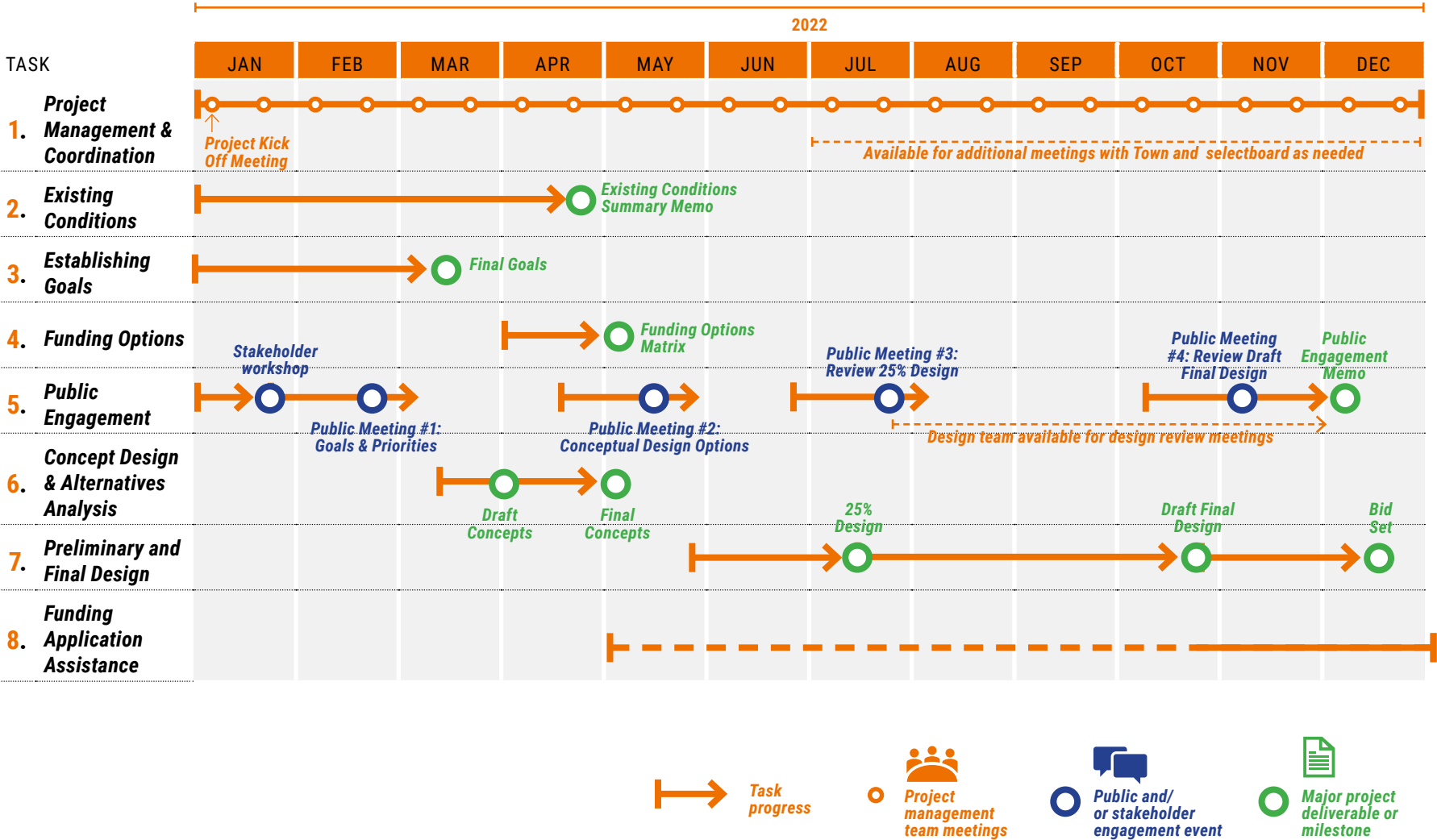
Bid Set includes Final Contract Plans, Technical Specifications, and a Final Opinion of Probable Cost. public presentation, and stakeholder/public meeting notes.

Task 8 – Funding Application Assistance

The Stantec team will assist the Town with preparation of up to two grant applications.

The project schedule shown here is based on the Town's desire to complete the in 2022, and considers the spring as a prime period for goal setting, conceptual design, and public engagement. We have proposed a schedule that includes deliverables and meetings, but are ready to work with the City as needed to coordinate and refine this.

A NOTE ON THE PANDEMIC. As we are all aware, we are working in unprecedented times as a result of the COVID-19 pandemic. The situation is fluid. Our proposal is based on our understanding of performing these services in current conditions. As the nature and extent of the impacts due to this outbreak cannot be fully identified or quantified at this time, we feel it would be prudent to submit this proposal based on current conditions, without accounting for possible worsening impacts that might occur as the outbreak develops further, and to discuss with you once we are able to evaluate the impacts and to work collaboratively with you on a path forward. We would be pleased to have a further discussion with you to share our respective plans and efforts to help mitigate the impact of this evolving situation on your proposed project.



REFERENCES



CLIENT REFERENCES

Our clients say it best! We welcome you to call these individuals to learn first-hand just what kind of a partnership we have brought to other similar projects and communities.

Institute of Transportation & Development Policy

Julia Wallerice

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New York, NY, USA 10003
(707) 694-5482
julia.wallerice@itdp.org

Executive Office of Energy & Environmental Affairs

Kurt Gaertner

9th Floor 100 Cambridge Street
Boston, MA, 02114
(617) 626-1154
kurt.gaertner@state.ma.us

DHCD Massachusetts Downtown Initiative

Elizabeth “Emmy” Hahn

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Boston, MA 02114
(617) 573-1100
elizabeth.hahn@mass.gov

APPENDIX



Dawood Survey Scope



325 Wood Road
Braintree, MA
02184

www.dawood.cc
info@dawood.com

+1.855.432.9663

December 16, 2021

Aleece D'Onofrio, PE
Stantec
65 Network Drive, 2nd Floor
Burlington, MA 01803

Re: Existing Conditions Route Survey – Massachusetts Avenue
Arlington, Massachusetts – Dawood Proposal No. 2100625.PP

Dear Aleece:

On behalf of Dawood Engineering, Inc. (Dawood), a Massachusetts MBE firm, I am pleased to submit this proposal to Stantec for land surveying services in connection with proposed corridor redesign project in Arlington, Massachusetts. This proposal is in response to your original Request for Proposal (RFP) contained in an email dated December 10, 2021. The survey limits and RFP which Dawood will adhere to were outlined in an attachment that accompanied the email. The length of the project is approximately 2300 linear feet, see Figure 1 on page 2 that depicts the main route

The survey will extend from right-of-way to right-of-way, except at driveways and pathways to properties where the survey will extend 15' up each. Dawood will capture the project survey data within the limits using the Trimble MX50 Mobile LiDAR mapping system in combination with conventional instruments.

The MX50 mobile mapper (see image below) produces point clouds and images from which Dawood will extract the required features. It safely, accurately, and quickly captures the scan data with the added benefit of keeping personnel out of the road. The vehicle with the system mounted atop will adhere to the local speed limit; and as such will not cause any delays or traffic backups. The vehicle will travel at 20-25 mph; as a result, we anticipate capturing the data required in approximately 2 hours.

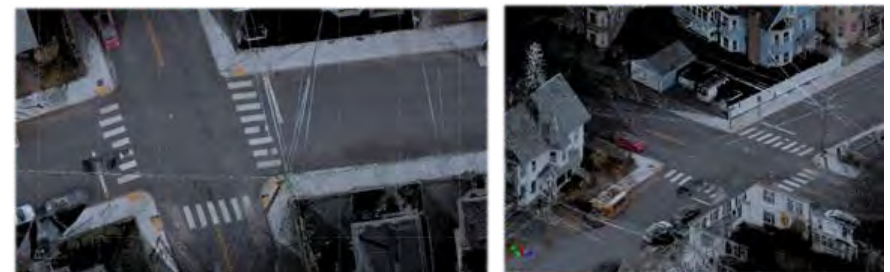


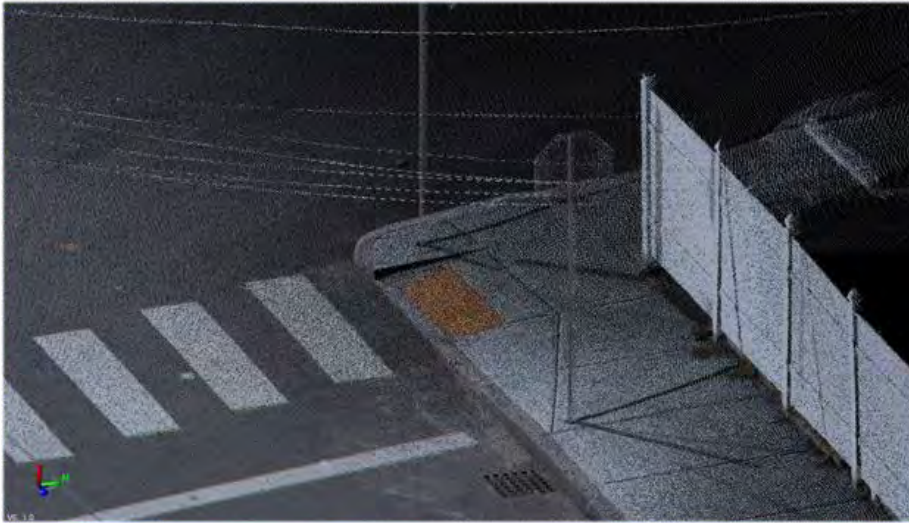
MX50 Mobile LiDAR
Mapper mounted
on top a Dawood Vehicle.



Figure 1 Survey Limits – Light Brown Highlighted Area

Typical Scan Data Captured by the MX50.





Our proposal is based on our past experience on similar surveys and it contains a Scope of Services, Completion Schedule and Fees for Services.

1.0 SCOPE OF SERVICE

Task 1.1 Research

- 1.1.1 Perform research at the Town of Arlington and various utility companies to acquire record information concerning the existence of buried utilities.

Task 1.2 Field Surveys

- 1.2.1 The survey control will be established using GPS and/or conventional methodology and will be referenced to the North American Datum of 1983 (NAD83) and North American Vertical Datum of 1988 (NAVD88) using the KeyNetGPS Virtual Reference System network. Dawood's staff will also research the existence of Massachusetts Geodetic Survey and/or National Geodetic Survey control stations in the vicinity of the various streets.
- 1.2.2 Conduct supplemental field surveys to locate topographic features not visible in the LiDAR data. Detail to be extracted/located shall include the various items

required in the attachment to the email referenced in the first paragraph. Centerline shots at 50-foot intervals, gutter line elevations, buildings facades, surface evidence of utilities, utility poles, signs, fences, drainage features, retaining walls and curbing.

- 1.2.3 Invert elevations will be obtained on sewer and drainage structures by direct measurement.

Task 1.3 Route - Right-of-Way

- 1.3.1 Dawood will conduct research at the Registry of Deeds, MassDOT and municipal offices to obtain record plans and documents that define the location of the right-of-way along the proposed route.
- 1.3.2 Dawood will compile field and record data and perform survey calculations necessary to re-establish the right-of-way based on record plans. As an integral part of this proposal, should any anomalies with the right-of-way become apparent during the survey computations Dawood shall notify the Client to discuss options to formulate a mutually beneficial resolution.
- 1.3.3 Dawood will compile parcel boundaries using if available GIS assessors' information.
- 1.3.4 Dawood will update the topographic basemap to depict the Right-of-Way from record and add the abutter information from assessor GIS data.

Task 1.4 Base Plan Preparation

- 1.4.1 Compile the location of utilities within the limit of the surveys utilizing surface evidence located during field surveys and available record information. Compile the location of parcel boundaries using if available GIS assessors' information. Building footprints will be extracted and/or imported from available GIS data also.
- 1.4.2 Prepare Existing Conditions Survey drawing plans at a scale of 1"= 20' in AutoCAD Civil 3D 2021 in accordance with MassDOT's current CAD Standards. It shall depict the information obtained during the field surveys. A digital terrain model will be developed, and 1-foot contours generated. The plan shall be transmitted electronically, using Dawood's secure file transfer service Newforma.

2.0 COMPLETION SCHEDULE

Dawood will commence work on this project immediately upon receipt of written Notice-to-Proceed and a Stantec Professional Services Agreement. Barring delays due to inclement weather or other unforeseen circumstances, the anticipated delivery will occur within eight (8) weeks of commencement.

3.0 FEE FOR SERVICE

Dawood proposes a Lump Sum Fees as depicted in the table below.

Item	Task	Fee
1.1	Existing Conditions Survey	\$26,125
1.0 and 1.3	Right-of-Way Survey (Abutters from Town GIS)	\$10,245
Total		\$36,370

*Our fee includes \$1,000 dollars to cover police details.

We are pleased to be considered for this project and we look forward to having the opportunity of working with you and your colleagues at Stantec.

Sincerely,
Dawood Engineering, Inc.



Jason G. Racette, PLS
Senior Project Manager

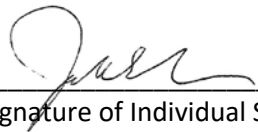


Noel C. Poynton
Survey Operations Manager

Enclosures

Certificate of Non-Collusion

The undersigned certifies under penalties of perjury that this bid or proposal has been made and submitted in good faith and without collusion or fraud with any other person. As used in this certification the word "person" shall mean any natural person, business, partnership, corporation, union, committee, club, or other organization, entity, or group of individuals.



Signature of Individual Submitting Bid or Proposal

Jason Schrieber

Name of Individual Submitting Bid or Proposal

Stantec Consulting Services, Inc.

Name of Business

12/23/2021

Date

BY STATE LAW THIS NON-COLLUSION FORM MUST BE SIGNED AND SUBMITTED WITH THE BID OR PROPOSAL.

Certificate of Tax Compliance

Pursuant to MGL Chapter 62C, Section 49A, I certify under the penalties of perjury that I have complied with all laws of the Commonwealth of Massachusetts relating to taxes, reporting of employees and contractors, and withholding and remitting child support.

11-2167170		Principal-in-Charge
Social Security Number or Federal Identification Number	Signature and Title of Individual or Responsible Corporate Officer	

BY STATE LAW THIS CERTIFICATE OF TAX COMPLIANCE FORM MUST BE SIGNED AND SUBMITTED WITH THE BID OR PROPOSAL.



Communities are fundamental. Whether around the corner or across the globe, they provide a foundation, a sense of place and of belonging. That's why at Stantec, we always **design with community in mind.**

We care about the communities we serve—because they're our communities too. This allows us to assess what's needed and connect our expertise; to appreciate nuances and envision what's never been considered; and to bring together diverse perspectives so we can collaborate toward a shared success.

We're planners, designers, engineers, architects, scientists, surveyors and project managers, innovating together at the intersection of community, creativity, and client relationships. Balancing these priorities results in projects that advance the quality of life in communities across the globe.

Design with community in mind.